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Indicator Species of the Olympic National Forest

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by

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and
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USDA Forest Service
Pacific Northwest Region
R6-ECOL-TP003-88
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ACKNOWLEDGEMENTS

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INTRODUCTION

This plant identification guide is intended to be a supplement to "Forested Plant Associations of the Olympic National Forest" (Henderson *et al.* 1989). Forest plant associations are potential natural forest communities and are identified by keys which use presence and abundance of indicator species. Indicator species are those species identified in the classification process which are most closely associated with individual plant associations. Species which have the highest abundance and/or constancy are chosen as the plant association indicator species.

This guide provides descriptions for the 36 indicator species, along with a key and identifying characteristics for each species. Distribution maps depict the locations where each species was encountered in sample plots during the field sampling for the plant association classification project. In addition, bar charts are presented which show the frequency (percent of plots) where each indicator species was encountered by elevation band and environmental zone (see p. 3, or p. 38 in Henderson *et al.* 1989, for discussion of environmental zones). These figures help describe the ecological distribution of the indicator species.

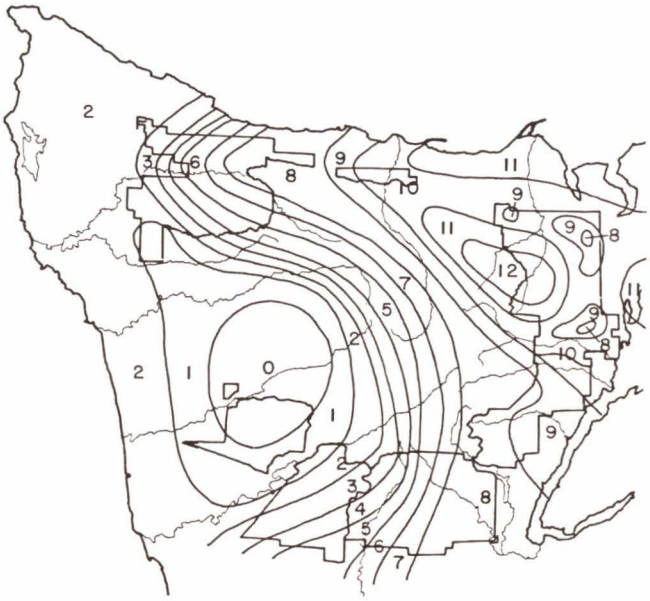
In addition to these 36 shrub, herb and fern indicator species, there are seven tree indicator species which are not included here, plus many more shrub, herb and fern species which may be encountered in the Olympic National Forest, some of which may resemble these indicator species. Users of either the plant association guide or this plant identification guide must be familiar with many other species. If a species is encountered which cannot be identified using this guide, the user is referred to Hitchcock *et al.* (1955-1969) or Hitchcock and Cronquist (1976) for further information.

This publication is a revision of "A Guide to the Indicator Species of the Olympic and Mt. Baker-Snoqualmie National Forests (Lesher and Henderson 1986).

ENVIRONMENTAL ZONES

Environmental zones are geographical areas of roughly similar environments. They are delimited on the basis of abundance and distribution of plant indicator species. In this way, a combination of key species is used to indicate a particular kind of environment. These zones are not based on elevation directly but are related to orographically induced climatic patterns. Wetter (lower numbered) zones occur along windward slopes of the Olympic Mountains and drier (higher numbered) zones occur in the rainshadow. Within any zone there is also an elevational effect as precipitation increases and temperature decreases with elevation.

Environmental zones are used to depict the environmental gradient from the wet western part of the Olympic Peninsula where there is high precipitation (over 200 inches) and a strong maritime climatic effect, to the dry rainshadow area in the northeast part of the Olympic Peninsula. Each species is accompanied by a figure which shows its frequency (percent of sample plots where that species occurred) for each environmental zone. These figures not only give a geographical distribution of the species but show how they are distributed relative to this moisture gradient. For more information about environmental zones, see p. 38 in "Forested Plant Associations of the Olympic National Forest" (Henderson *et al.* 1989).



KEY TO THE INDICATOR SPECIES OF THE OLYMPIC NATIONAL FOREST

1. Shrubs, subshrubs and perennial ferns; plants with stems or leaves which overwinter aboveground. Stems may be woody and upright or semi-woody to leathery and vine-like, and creeping along the ground, or short and inconspicuous, with perennial leaves or fronds ..... (2)
2. Tall shrubs; upright, stiff, usually exceeding 5 feet tall ..... (3)
3. Shrubs armed with spines or prickles ..... (4)
4. Tall shrub, often exceeding 8 feet tall with large armed palmate leaves, and stiff spiny stems..... p. 38 **DEVIL'S CLUB (OPHO)**

4a. Tall shrub, usually 4-8 feet tall, with pinnately compound leaves. Flowers magenta or pink, fruit raspberry-like ..... p. 54 **SALMONBERRY (RUSP)**

3a. Shrubs unarmed..... (5)
5. Evergreen shrub 4-10 feet tall, often very woody; leaves ovate, leathery, flowers pink and showy..... p. 48 **RHODODENDRON (RHMA)**

5a. Shrubs not evergreen..... (6)
6. Leaves smooth and entire to sparsely and finely toothed ..... (7)
7. Leaves smooth and shiny, flowers in axillary clusters of showy white flowers. Leaves somewhat clustered at end of branch, but occurring along the stem also, not like Fool's Huckleberry (MEFE) which has leaves clustered, almost whorled at end of branch and stems whorled or umbellate ..... p. 46 **WHITE RHODODENDRON (RHAL)**

7a. Leaves smooth but not shiny, stem lacking a terminal bud, flowers solitary, small, globose or flattened urn-shaped, whitish to pinkish or slightly greenish. Leaves slightly and sparsely toothed. (huckleberries) ..... (8)
8. Medium shrub 2-10 ft tall, stems grayish brown, fruits dark blue (see lead 20) ..... p. 64 **ALASKA HUCKLEBERRY (VAAL)**

8a. Medium shrub 2-7 ft tall, stems angled and remaining green for several years. Leaves small, 1/2-1 inch long, oval, fruits pale pink to red (see lead 17) ..... p. 74 **RED HUCKLEBERRY (VAPA)**

6a. Leaves coarsely dentate to palmately lobed ..... (9)
9. Tall shrub, 5-25 ft, very woody stem. Leaves with 7-9 toothed lobes p. 6 **VINE MAPLE (ACCI)**

9a. Medium to tall shrub 4-10 feet. Leaves dentate-ovate. Flower a showy cluster of many small white flowers. ..... p. 28 **OCEANSPRAY (HODI)**

2a. Medium shrub, 1/2 to 5 feet tall..... (10)
10. Shrubs armed with spines or prickles, leaves compound. Flower solitary or in small loose cluster, somewhat showy with pink petals ..... p. 50 **BALDHIP ROSE (ROGY)**

10a. Shrubs unarmed, although the leaves may have sharp points or prickles ..... (11)
11. Shrubs evergreen, with leathery leaves or linear conifer-like leaves ..... (12)
12. Leaves broad and leathery ..... (13)
13. Low, prostrate shrub with stiff woody stems. Leaves 1/2 to 1 1/2 inch long. Flower urn-shaped, fruits red or orange ..... p. 10 **KINNIKINNICK (ARUV)**

13a. Low to medium shrub, not prostrate ..... (14)
14. Leaves mostly 1-1 1/2 inch, leathery, ovate, denticulate, flowers urn-shaped, white to slightly pinkish, clustered along stem. ..... p. 72 **EVERGREEN HUCKLEBERRY(VAOV2)**

14a. Leaves larger ..... (15)
15. Leaves compound with spinulose margins, flowers yellow in upright cluster, fruits berry-like, bluish when mature ..... p. 12 **OREGONGRAPE (BENE)**

15a. Leaves single, ovate, flowers whitish and urn-shaped. Fruits purplish, fleshy. Plants usually 1-3 feet tall, occasionally shorter or much taller .... p. 26 **SALAL (GASH)**

12a. Leaves linear, conifer-like ..... (16)
16. Plant a true conifer, but prostrate or shrub-like with linear, often sharp-pointed leaves, cones bluish and berry-like ..... p. 30 **COMMON JUNIPER (JUCO4)**

16a. Ericaceous shrub with flattened, strap-shaped leaves, firm but not stiff or sharp-pointed. Flower pink to magenta, urn-shaped, fruit a reddish, fleshy capsule ..... p. 42 **RED HEATHER (PHEM)**

11a. Shrubs not evergreen, leaves oval to ovate, mostly entire to denticulate or serrate, flowers urn-shaped, fruits red to dark blue berry (huckleberries) ..... (17)
17. Stems angled, remaining green for several seasons, mature fruit red ..... p.74 **RED HUCKLEBERRY (VAPA)**

17a. Stems not conspicuously angled, fruit blue or purple ..... (18)
18. Leaves yellowish-green, thin, finely serrate with pointed tip, shrub usually 2-5 feet, fruit purple to black..... p. 68 **BIG HUCKLEBERRY (VAME)**

18a. Leaves more bluish-green, somewhat denticulate to entire, blunt or somewhat acute-tipped, fruit bluish ..... (19)
19. Leaves somewhat obovate, thick, becoming almost leathery, low shrub , ... 1/2 - 2 ft tall, subalpine meadows, parkland. p. 66 **BLUE-LEAF HUCKLEBERRY (VADE)**

19a. Plants taller when mature, leaves thinner, ovate ..... (20)

20. Pedicels 1/2 in or longer, rather straight, slightly enlarged immediately below fruit. Leaves with minute glandular hairs along the mid-vein on underside of leaf. Flowers sparsely scattered on shrub, usually borne singly beneath the leaves, developing after the leaves. Berry dull bluish-black ..... p. 64 ALASKA HUCKLEBERRY (VAAL)

20a. Pedicels usually less than 1/2 inch, often strongly curved, not enlarged below the fruit, leaves without glandular hairs beneath. Flowers developing before the leaves and often densely clustered on the shrub. Berry bright glaucous blue ..... p. 70 OVAL-LEAF HUCKLEBERRY (VAOV)

2b. Subshrubs; herbaceous flowering plants with perennial but non-woody aboveground stems ..... (21)

21. Subshrubs with well-developed trailing, vine-like stolons or aboveground stems ..... (22)

22. Many sub-erect leafy stems arising from trailing stems, each terminating with a pair of pinkisk trumpet-shaped flowers. Leaves firm, elliptic, entire to few-toothed ..... p. 32 TWINFLOWER (LIBO2)

22a. Leaves and flowering stems arising from nodes along the trailing stolon. Leaves divided into 3-5 leaflets (Trailing Bramble (RULA) has a single- lobed leaf). Flowers white, fruits a cluster of small red, fleshy drupelets. ..... p. 52 FIVE-LEAVED BRAMBLE (RUPE)

21a. Subshrubs with short, sometimes erect aboveground stems ..... (23)

23. Aboveground stems short and leathery, leaves in a whorl on top of a short stem. Flowers a small compact cluster, surrounded by 4 (6-8) whitish bracts. Fruits a cluster of small orange to red "berries" (drupes) ..... p. 18 BUNCHBERRY (COCA)

23a. Aboveground stems obscured by a dense cluster of stiff, serrate-edged grass-like leaves. Flowers white in a large showy cluster atop a long erect flowering stem ..... p. 76 BEARGRASS (XETE)

2c. Ferns with perennial fronds ..... (24)

24. Frond of two types, lateral vegetative fronds with broad rounded, entire lobes and upright fertile (spore-bearing) fronds with narrow lobes ..... p. 14 DEERFERN (BLSP)

24a. Fronds all the same, with serrate, slightly petiolate leaflets. Spore-bearing sori (spore sacs) on underside of mature fronds ..... p. 44 SWORDFERN (POMU)

1a. Herbs; plants over-winter belowground, aboveground parts strictly annual.

25. Grass-like flower consisting of fertile florets enclosed by two bract-like glumes. Many grass and grass-like species may be encountered. This species is recognized by its thin, wiry leaves and stems, and shallow root system which is uprooted easily from the duff .. p. 22 WESTERN FESCUE (FEOC)

25a. Non grass-like flowering plants ..... (26)

26. Plants rank and trailing or ascending, leaves in whorls to 5-6, flowers small, white, borne in 3's at end of axillary flowering stems, fruits with hooked bristles (several species of bedstraw can be encountered ..... p. 24 FRAGRANT BEDSTRAW (GATR)

26a. Not as above ..... (27)

27. Leaves strictly basal, arising from the ground, entire ..... (28)

28. Leaves large (upto 3 feet), succulent, flower a conspicuous yellow leaf-like hood (spathe) enclosing a stout spike of greenish flowers (spadix) ..... p. 36 SKUNKCABBAGE (LYAM)

28a. Leaves smaller, usually 6-12 inches ..... (29)

29. Leaves apparently without a stem (petiole), leaf margin with fine hairs, flowers white with 6 "petals", fruit a blue berry ..... p. 16 QUEEN'S CUP (CLUN)

29a. Leaves with a petiole, flowers white with yellow patches near the throat, sometimes drying pinkish, recurved, often 2-3 on a flowering stalk ..... p. 20 AVALANCHE LILY (ERMO)

27a. At least some of the leaves from a herbaceous stem ..... (30)

30. Leaves simple ..... (31)

31. Leaves 3-lobed, hirsute and glandular, some arising from ground level and some borne on the flowering stem. Flowers white on an upright stalk ..... p. 62 SINGLE-LEAVED FOAMFLOWER (TIUN)

31a. Leaves entire, alternating on a succulent stem, not lobed, not hirsute glandular, barely if at all pubescent ..... (32)

32. Flowers rose-colored, borne singly from the leaf axils, pendent. Small glandular hairs on the stem opposite the point of leaf attachment ..... p. 58 ROSY TWISTED-STALK (STRO)

32a. Flowers white, in loose cluster at end of a leafy stalk ..... p. 56 STAR-FLOWERED SOLOMON'S SEAL (SMST)

31b. Leaves compound ..... (33)

33. Leaves compound with 3 leaflets ..... (34)

34. Leaves both basal and on the flowering stem, hirsute and glandular, flowers white on an upright stalk ..... p. 60 THREE- LEAVED FOAMFLOWER (TITR)

34a. Leaves divided into 3 clover-like leaflets, flowers solitary, white ..... p. 40 OXALIS (OXOR)

34b. Leaves divided into 3 large, irregularly shaped leaflets, borne on the end of a tall stalk (upto 12 in.), small flowers clustered in a tight spike ..... p. 8 VANILLALEAF (ACTR)

33a. Leaves palmately compound with long petiole. Glabrous to sometimes pubescent. Flowers blue and white, pea-like, borne in a dense upright cluster ..... p. 34 SUBALPINE LUPINE (LULA)

VINE MAPLE

Acer circinatum ACCI

Range: East Cascades to the coast, more common on the westside of the Cascades; wide distribution from Alaska to northern California.

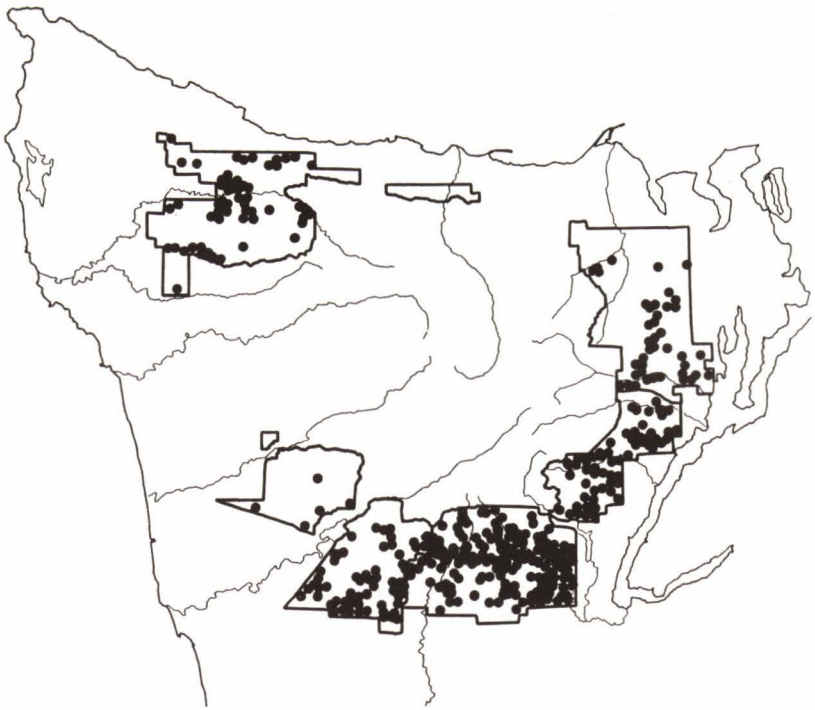
Habitat and Distribution: Occurs throughout the Forest except in the driest and wettest areas, common below 2500 ft and in Environmental Zones 4-8. Occupies a wide range of habitats, generally warm, often on moist, well-drained soils, but on drier sites at higher elevations, sensitive to deep shade.

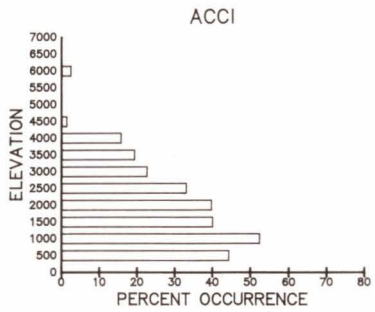
Description: Large shrub to 25 feet in height, often with numerous upright stems, sometimes forming dense thickets; bark is thin, green to gray.

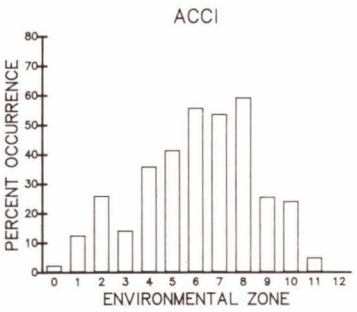
Leaves: Opposite, palmate with 7-9 lobes, margins toothed, leaf petioles usually shorter than leaf blades; deciduous.

Flowers: (March - June) Small reddish flowers on short lateral stems.

Fruit: Winged fruit with wings widely spread to horizontal; wind dispersed.







Distribution of vine maple on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

VANILLALEAF

Achlys triphylla ACTR

Range: Olympic Mountains and both sides of the Cascades from British Columbia south to northern Oregon and Columbia River Gorge, west Cascades from Oregon to northwest California.

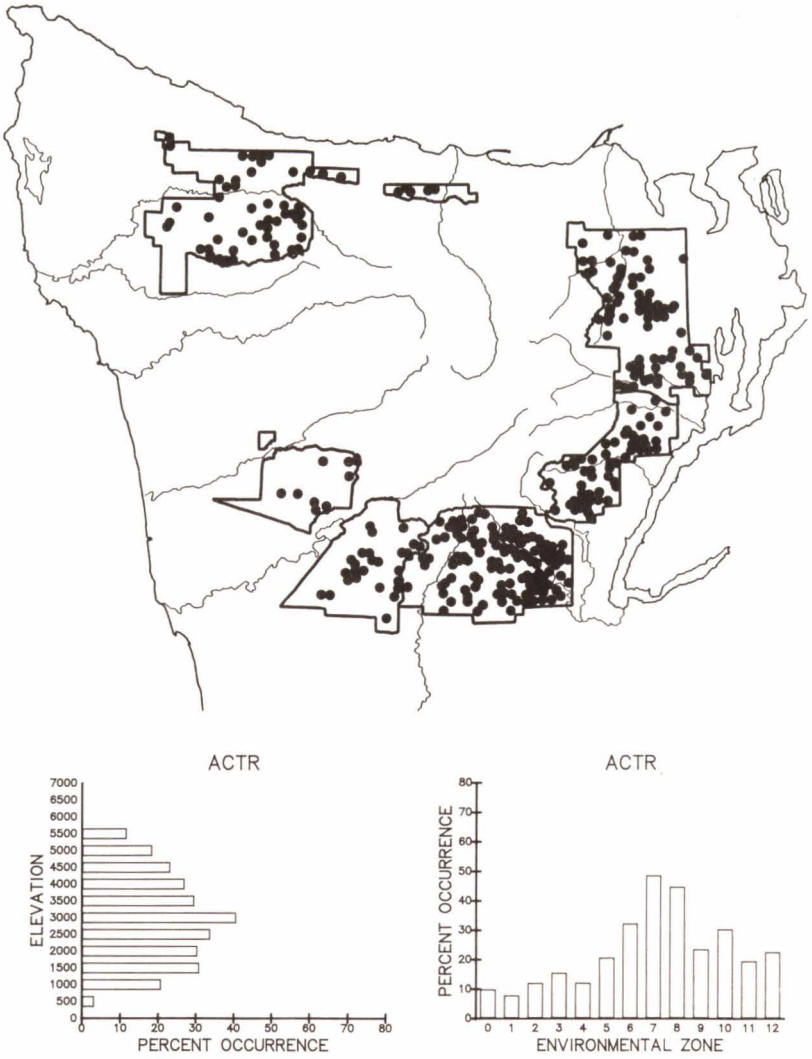
Habitat and Distribution: Occurs throughout the Forest, mostly between 1000 and 5000 ft elevation, in the mesic and drier environmental zones. Mesic to moist sites, often with spring moisture.

Description: Low-growing perennial, less than 15 inches in height, often forming extensive patches by spreading rhizomes, leaves with vanilla odor when dried.

Leaves: Three fan-shaped leaflets with scalloped margins and rounded lobes; leaf terminal on upright stem.

Flowers: (April - July) Elongate spike of small white flowers, borne on the end of a leafless stem, often taller than the leaves; flowers with a cluster of 10 stamens but lacking sepals and petals.

Fruit: Small dry crescent-shaped fruit, 1-seeded.



Distribution of vanillaleaf on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

KINNIKINNICK

Arctostaphylos uva-ursi ARUV

Range: Alaska south to Oregon and northern California coast; widespread but sporadic distribution across North America, Eurasia.

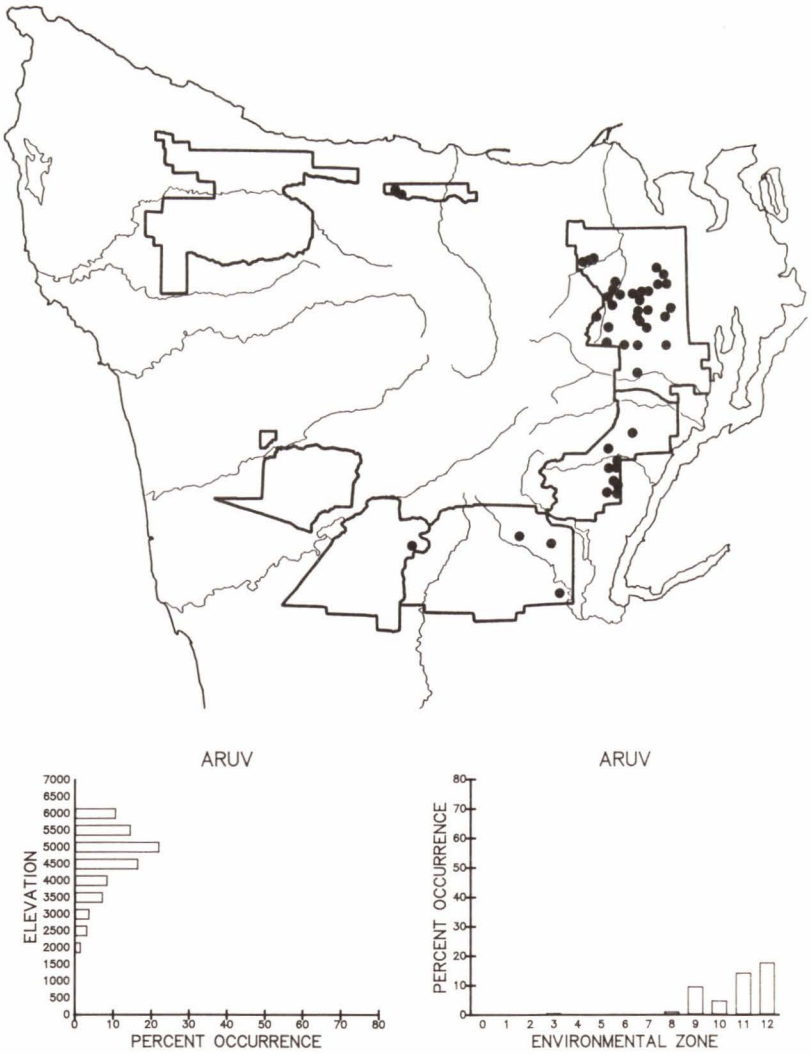
Habitat and Distribution: Coastal lowlands to high elevations. More common above 4000 feet and in drier environmental zones. Open dry sites, rock outcrops, dry woods, usually thin rocky soils.

Description: Sprawling shrub often forming extensive mats, bark is reddish-brown and peeling, leaves often clustered near branch tips.

Leaves: Alternate, small, thick and leathery, oval with rounded tip and narrow base; evergreen.

Flowers: (April - June) Small, pink, urn-shaped flowers, borne in loose cluster at tip of branches; bumblebee pollinated.

Fruit: Edible red berry, but mealy and dry.



Distribution of kinnikinnick on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

OREGONGRAPE

Berberis nervosa BENE

Range: Cascades and Olympics, southern British Columbia to central California. Reported from the Northern Rocky Mountains and Blue Mountains.

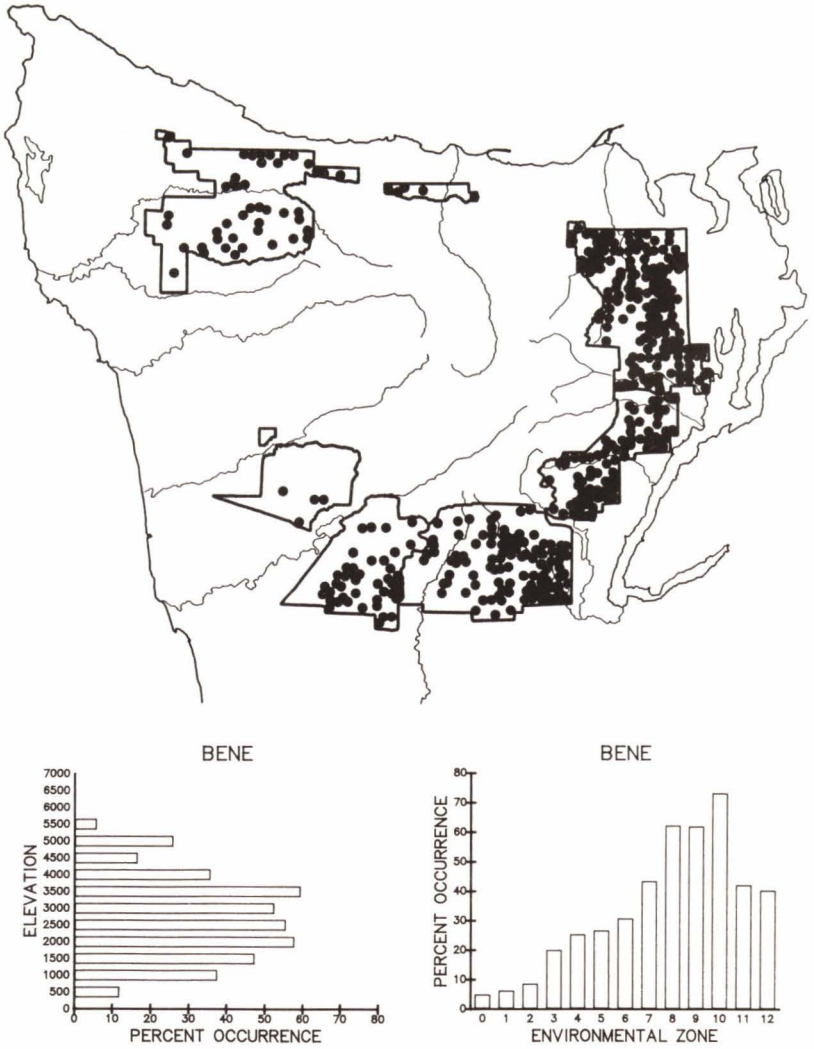
Habitat and Distribution: Occurs commonly throughout the Forest except in the wettest environmental zones. Mostly below 4000 feet in a wide range of habitats, more common on well-drained or rocky sites.

Description: Low-growing rhizomatous shrub, 1-2 feet tall, leaves clustered on short upright stem.

Leaves: Pinnately compound, 9 to 19 leaflets with spine-toothed margins, glossy leaves with prominent veins; evergreen, turning shades of red and yellow after several years.

Flowers: (March - June) Terminal spikes of small bright yellow flowers.

Fruit: Clusters of dark blue berries with white "bloom", tart but edible.



Distribution of Oregongrape on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

DEERFERN

Blechnum spicant **BLSP**

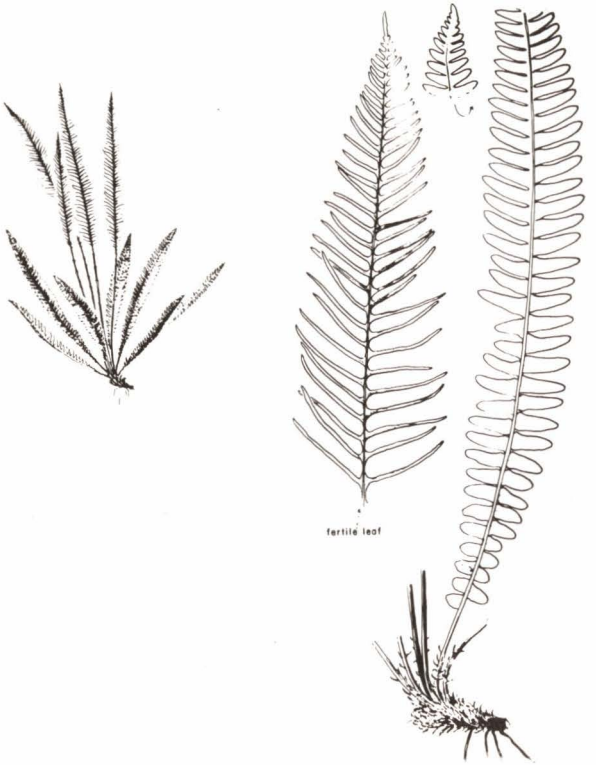
Range: Primarily west Cascades, Olympics and Coast Ranges; south from Aleutians to California, northern Idaho, sporadic circumboreal distribution.

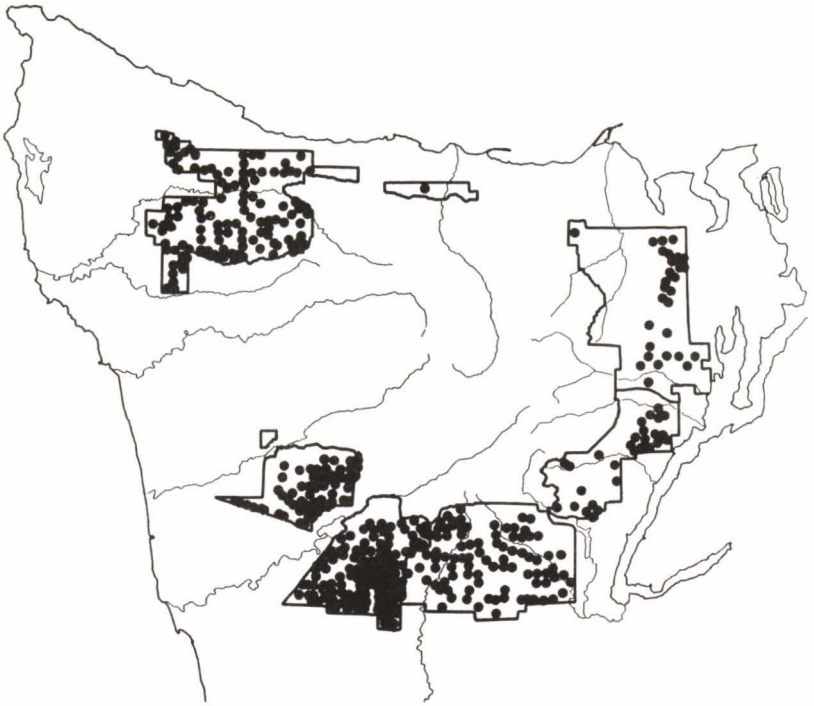
Habitat and Distribution: Common from mid- to low elevations and in mesic to wet environmental zones. Moist to wet sites with maritime climate or areas with snow accumulation.

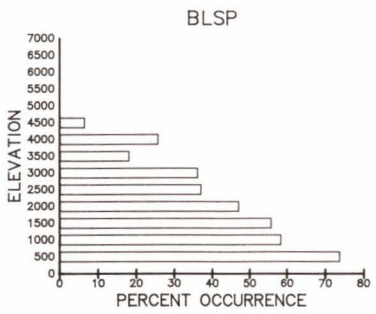
Description: Small fern with short rhizome, fronds often prostrate to more or less erect; two types of fronds - vegetative and spore-bearing.

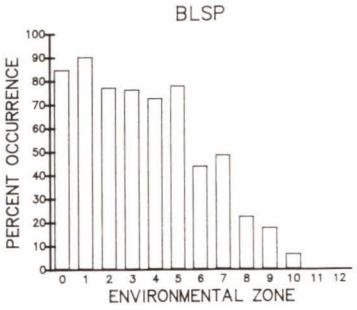
Leaves: Vegetative fronds oblong-linear, dark green and leathery, pinnately compound, leaflets with entire margins; evergreen.

Sori: Spore-bearing fronds upright and taller than vegetative fronds, pinnately compound, linear leaflets with rolled margins, clusters of spore sacs on lower surface.









Distribution of deerfern on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

QUEEN'S CUP

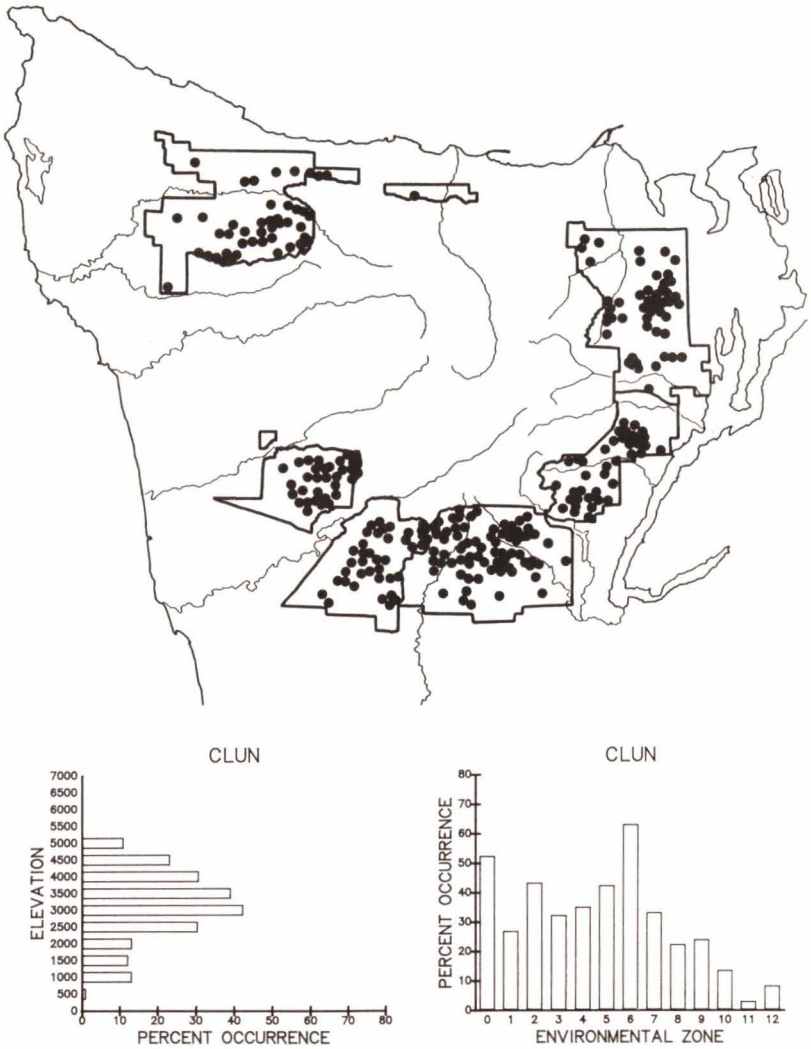
Clintonia uniflora CLUN

Range: Cascades and Olympics; Alaska to California, east to northern Rocky Mountains.

Habitat and Distribution: Cool moist coniferous forests, more common at mid-elevations and in mesic and wetter environmental zones. Moderately well-drained soils, generally in sites with snow accumulation.

Description: Low-growing perennial with creeping rhizomes, one or two basal leaves, plant inconspicuously hairy.

- Leaves: Elliptic, usually 1 pair on lower stem, sparsely soft-hairy, particularly on lower surface and along margin.
- Flowers: (June - July) Showy with 6 white "petals", often solitary, terminal on single flowering stalk about 6 inches tall.
- Fruit: Shiny blue berry with several seeds, reportedly poisonous.



Distribution of queen's cup on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

BUNCHBERRY

Cornus canadensis COCA

Range: Cascades and Olympic Mountains; wide distribution from Alaska to Greenland, south to California, New Mexico; Asia.

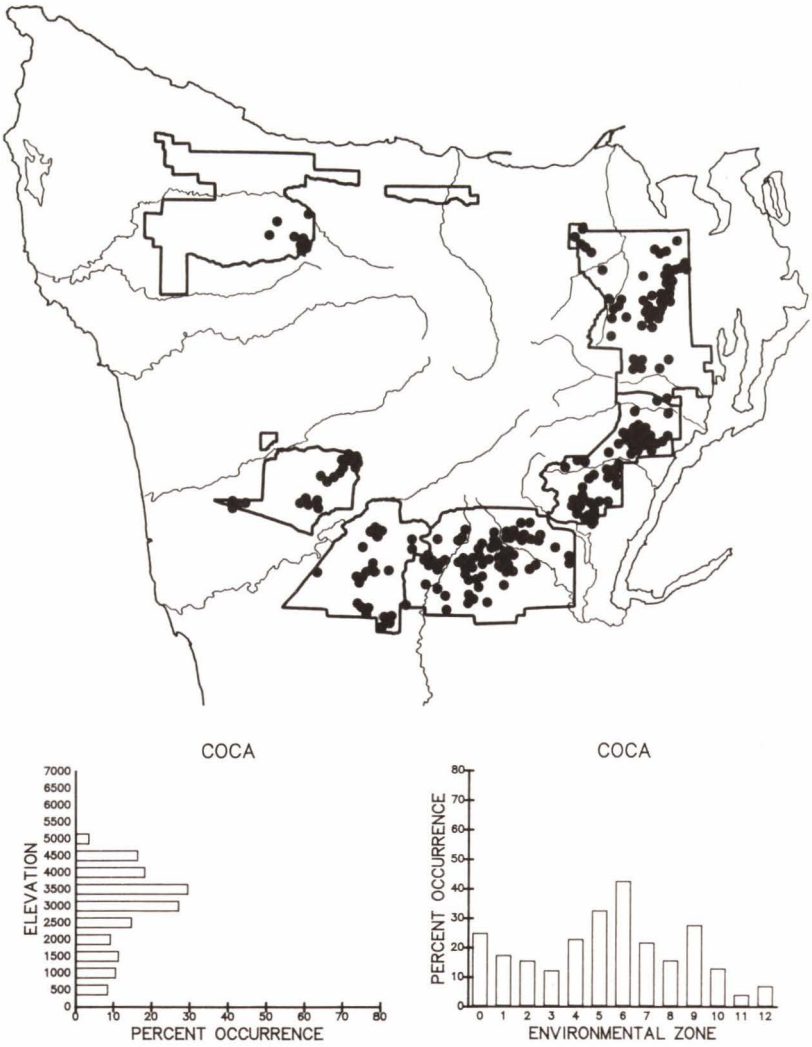
Habitat and Distribution: Occurs from near sea level to 4500 feet in most environmental zones, but more commonly at mid-elevations. Cool, moderately well-drained soils, usually sites with snow accumulation.

Description: Low-growing perennial usually less than 8 inches tall, leaves in 1-2 whorls at top of stem, wide-spreading rhizomes.

Leaves: Opposite, whorled near top of stem, broadly elliptic with sharp point, prominently veined, veins arching towards leaf tip.

Flowers: (June - August) Four (to seven) showy white bracts surround tight cluster of small inconspicuous flowers, borne above the whorl of leaves.

Fruit: Red fleshy "berries", clustered above the leaves.



Distribution of bunchberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

AVALANCHE LILY

Erythronium montanum ERMO

Range: Cascade Mountains south to northern Oregon, Olympic Mountains and Vancouver Island.

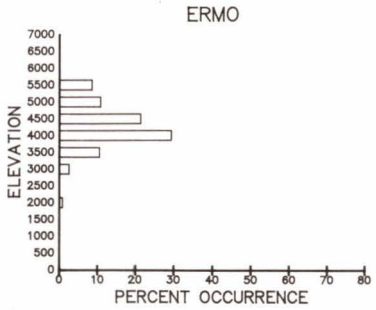
Habitat and Distribution: Montane forests to subalpine meadows, mostly above 3500 ft elevation in wetter environmental zones. Cold sites, often with deep snowpack.

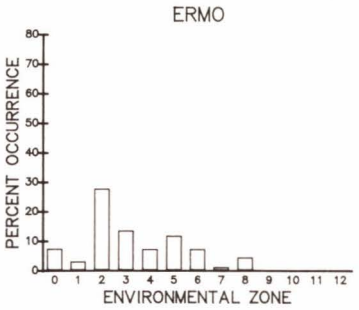
Description: Low-growing perennial lily with corm, pair of basal leaves, flowers following receding snow.

Leaves: Pair of broad lance-shaped leaves of uniform color with no mottling, slightly winged leafstalk.

Flowers: (June - September) Showy nodding flowers, 6 white "petals" with yellow band at base, one to several on a flowering stalk.

Fruit: Upright 3-lobed capsule.





Distribution of avalanche lily on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

WESTERN FESCUE

Festuca occidentalis FEOC

Range: British Columbia south along coast and in mountains to central California, across Canada to Ontario and south to Michigan.

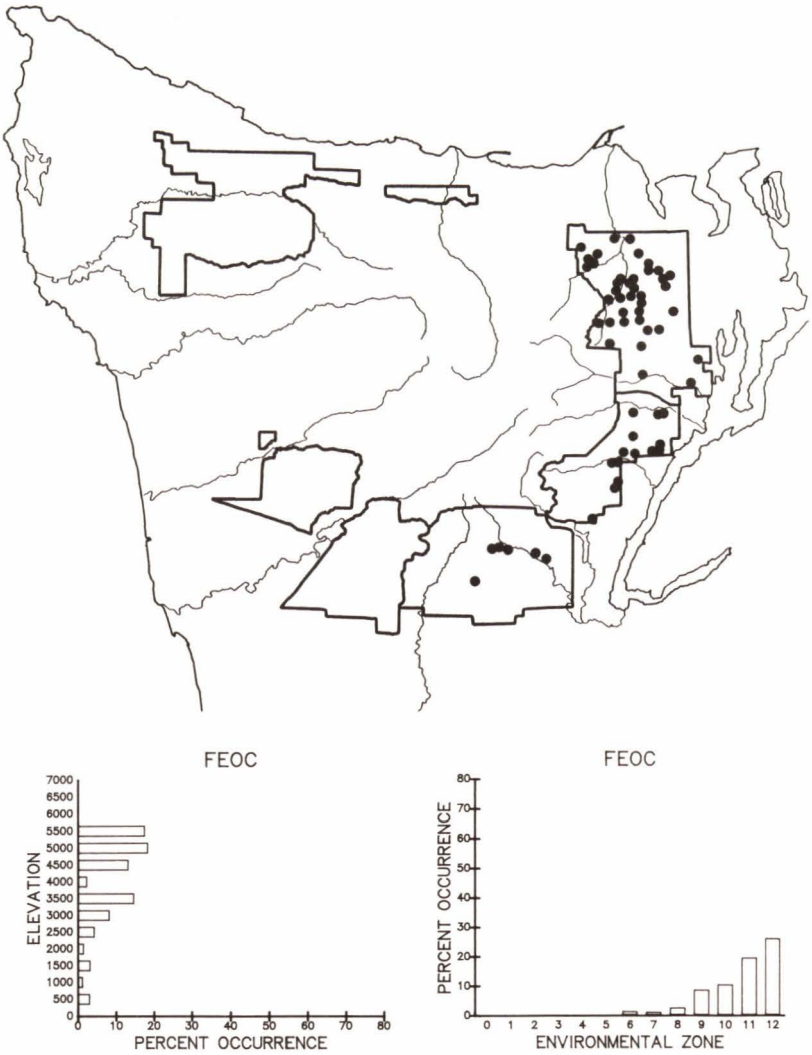
Habitat and Distribution: Mid- to higher elevations, in drier environmental zones; warm, dry, forested sites.

Description: Perennial grass, generally less than 3 feet in height, dense tufts of basal leaves with few leaves on the stem. Hollow stems, open sheaths, no auricles, open panicle; membranous ligules up to 7 mm long, highest on the sides, upper margin with short inconspicuous fringe of hairs.

Leaves: Blades very slender and with rolled margins.

Flowers: (May - July) Large, open, usually drooping panicle; spikelets with 3 to 7 flowers, floral bract (lemma) with bristle tip (awn), 4-12 mm long.

Fruit: Hard, dry, 1-seeded fruit.



Distribution of western fescue on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

FRAGRANT BEDSTRAW

Galium triflorum GATR

Range: Widespread circumboreal distribution; south in North America to California, Florida and Mexico.

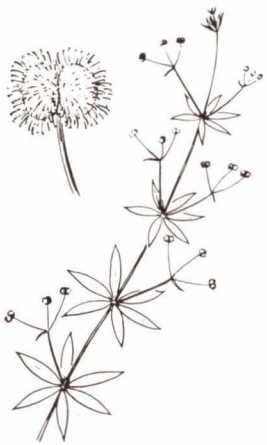
Habitat and Distribution: Occurs throughout the Forest in all environmental zones, more common at lower elevations. Moist, often well-watered sites.

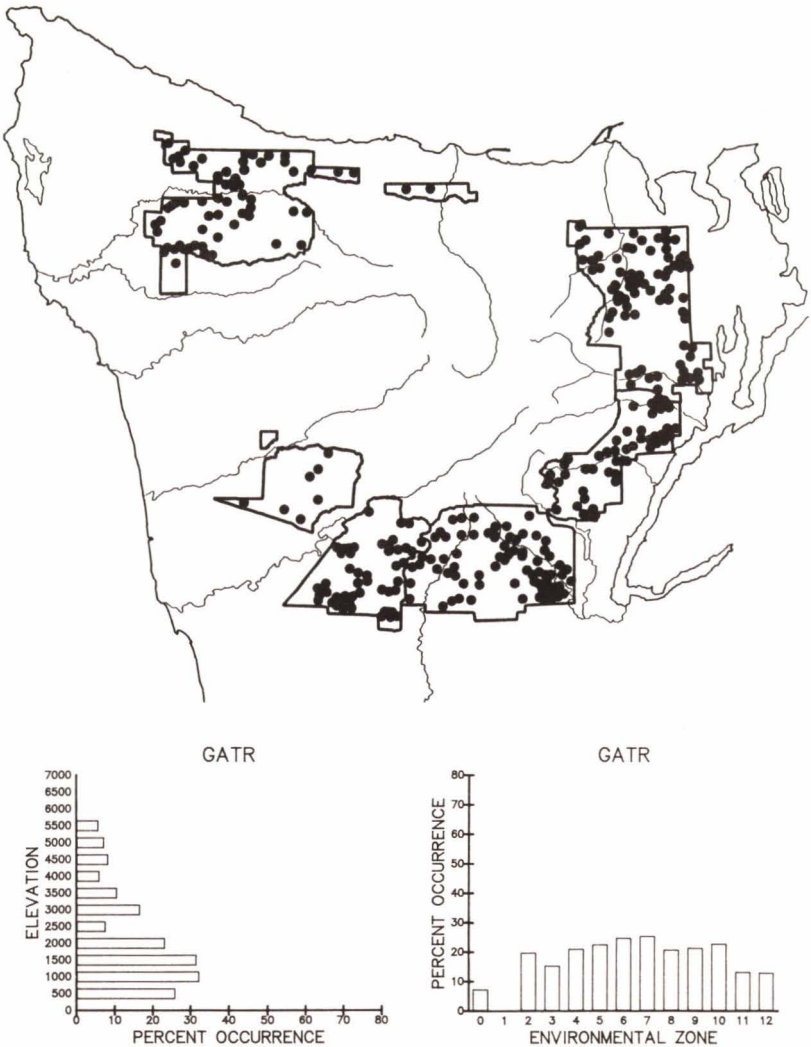
Description: Low-growing perennial, spreading by creeping rhizomes; square stems that are trailing or weakly erect, up to 2 1/2 feet long, stem with short recurved hairs.

Leaves: Whorls of 5-6 leaves, narrowly elliptic with sharp point, 1-nerved.

Flowers: (June - August) Tiny, inconspicuous, 4 white petals; 3 terminal flowers borne on slender stalk from leaf axil.

Fruit: Small 2-lobed burr with hooked hairs.





Distribution of fragrant bedstraw on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

SALAL

Gaultheria shallon GASH

Range: Olympics and west slope of Cascades to the coast; British Columbia to southern California.

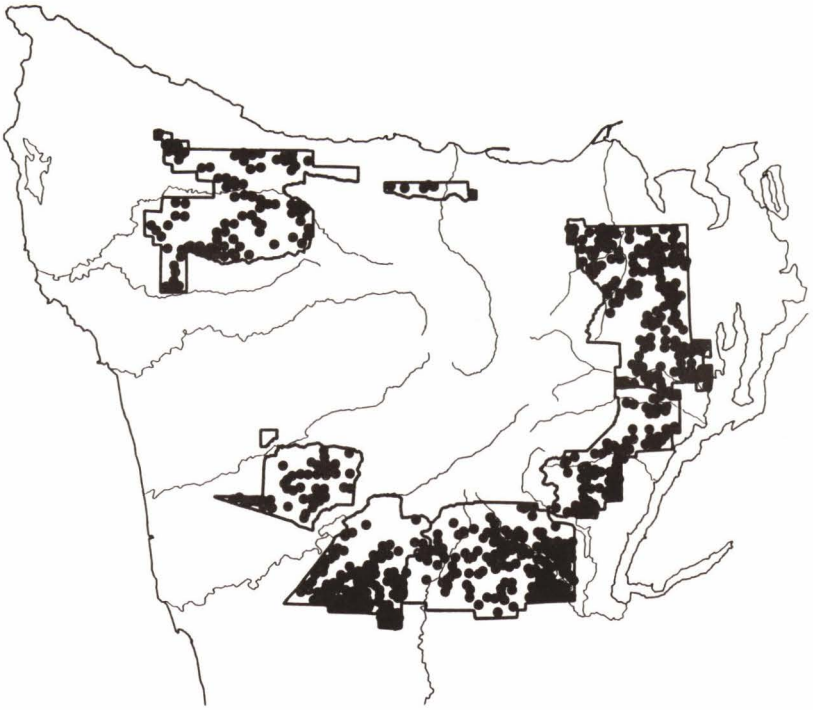
Habitat and Distribution: Common in all but the driest environmental zones and below 3500 ft. elevation. Conifer forests, generally warm and dry, well-drained sites, but may occur in wet areas on logs or stumps, and in coastal areas with salt spray. Not on sites with deep snowpack.

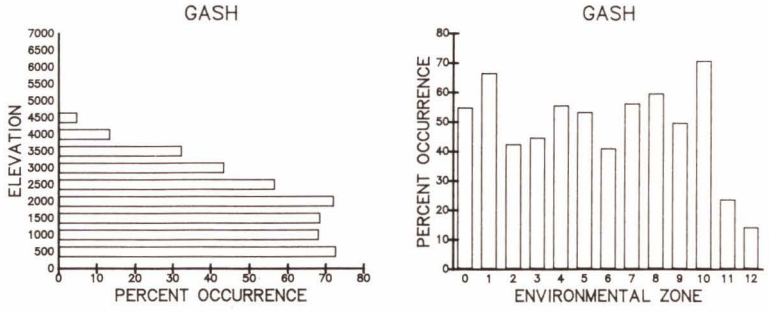
Description: Small to medium-sized shrub, generally 2-4 feet tall but may reach heights of 7 feet and form impenetrable thickets in coastal areas; stems sparsely hairy.

Leaves: Alternate, dark green and leathery, often shiny, ovate with fine-toothed margins, prominently veined; evergreen.

Flowers: (May - July) White to pink, urn-shaped flowers, hanging on stems arising from leaf axils, sticky hairs on flowers and flowering stems; bumblebee pollinated.

Fruit: Deep purplish-blue, fleshy and berry-like; edible, sweet but somewhat mealy, important food source for animals, which also disperse the seeds.





Distribution of salal on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

OCEANSPRAY

Holodiscus discolor HODI

Range: Western Cascades to the coast and Olympics; British Columbia south to California, east to northern Idaho and western Montana, northeastern Oregon.

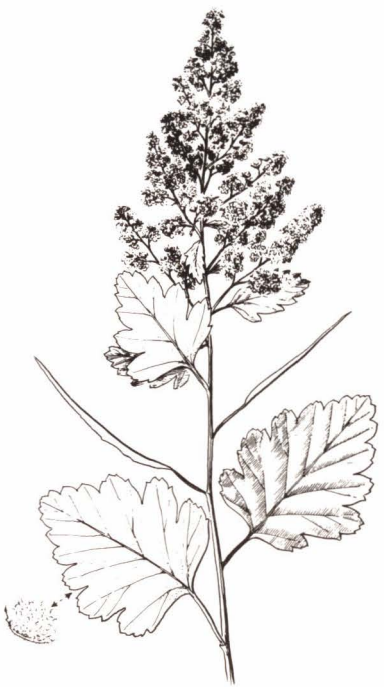
Habitat and Distribution: Occurs mostly in dry environmental zones, from sea level to 5500 ft. elevation. Warm, dry sites, often with rocky, shallow soils.

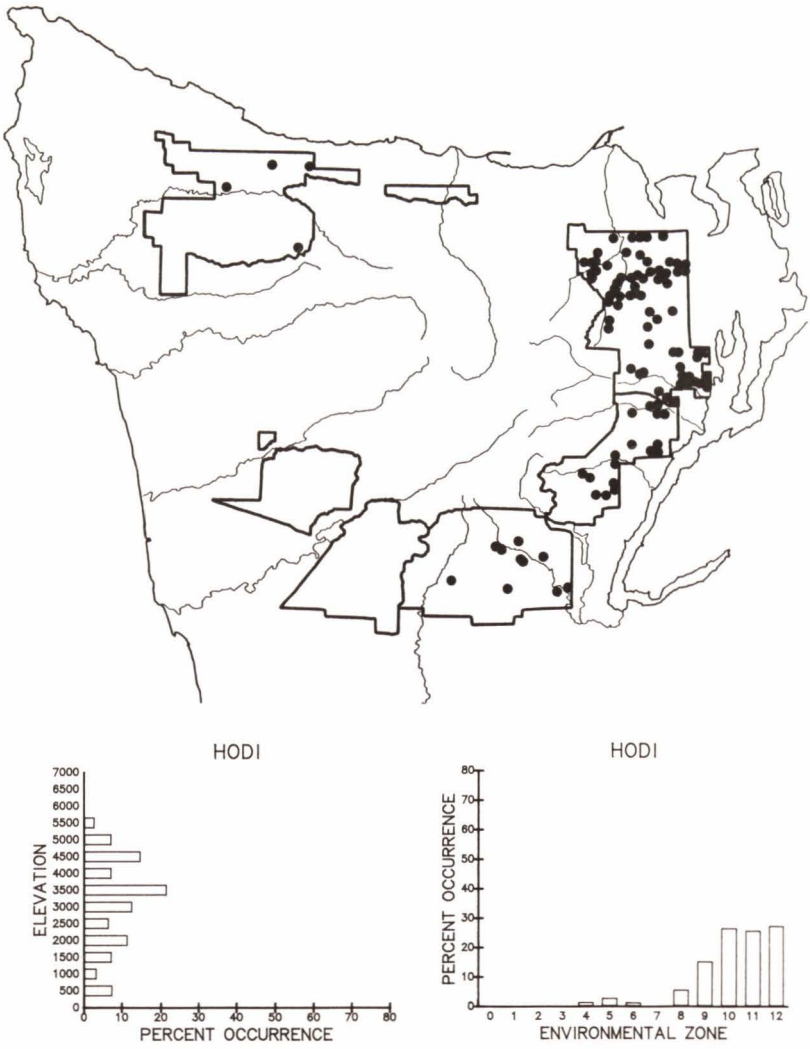
Description: Medium-sized shrub up to 10 feet in height, erect but often lanky, bark grayish-red.

Leaves: Alternate, ovate leaves with scallop-toothed margins, inconspicuously hairy, the lower surface felty to the touch; deciduous.

Flowers: (June - August) Dense creamy white plumes of numerous tiny flowers, hanging like wisps of sea foam from the branch tips; brown withered blossoms with fruits often persist until the next flowering season.

Fruit: Small, dry, 1-seeded fruit, hairy; wind dispersed.





Distribution of oceanspray on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

COMMON JUNIPER

Juniperus communis JUCO4

Range: Montane areas of Cascades and Olympics; widespread in boreal regions of North America from Alaska south to California, Greenland and Eurasia.

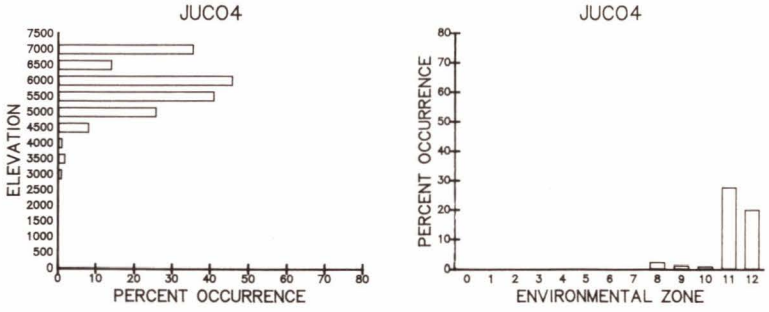
Habitat and Distribution: Occurs mostly at higher elevations in dry environmental zones. Generally ridgetops or upper slopes, in shallow, well-drained, often rocky soils.

Description: Low-growing evergreen shrub forming dense mats.

Leaves: Short, stiff and needle-like, leaves borne in 3's, yellowish-green or darker, whitish underneath, pungent; evergreen.

Flowers: (April - May) Small inconspicuous male and female cones produced on separate plants.

Fruit: Small waxy blue "berry" with several seeds.



Distribution of common juniper on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

TWINFLOWER

Linnaea borealis LIBO2

Range: Cascades and Olympics; circumboreal, extending south in forested regions to California, New Mexico and West Virginia.

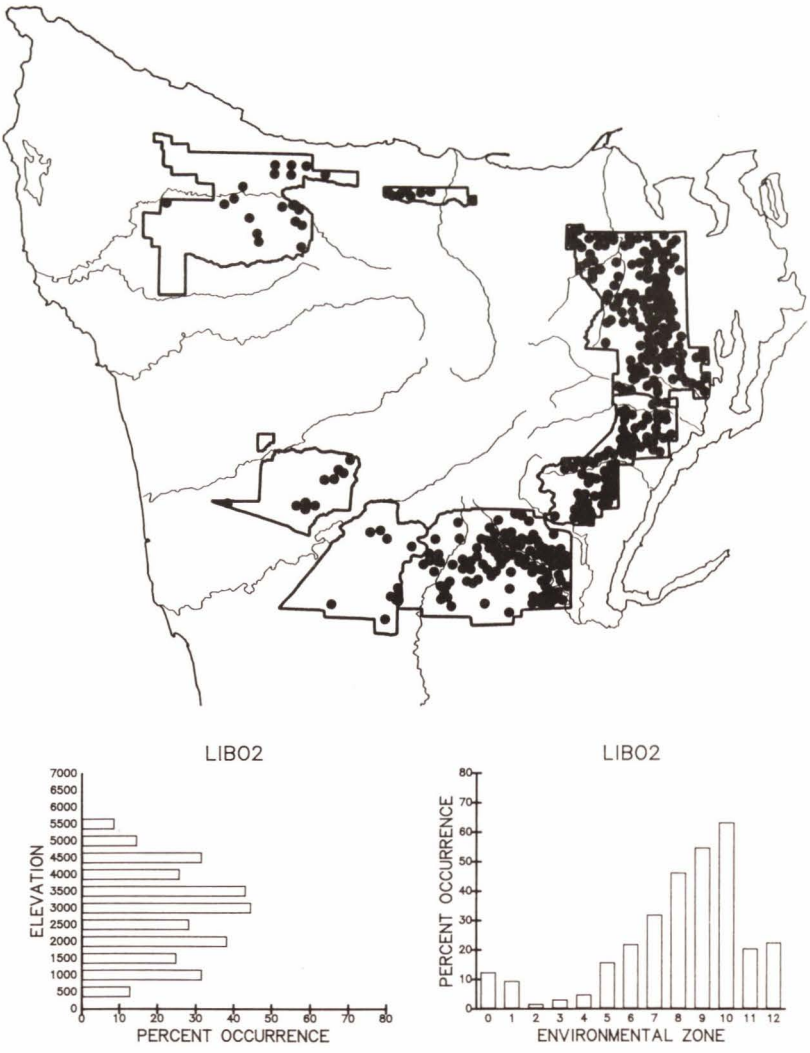
Habitat and Distribution: Common except in the wettest areas of the Forest, and below 4500 ft. elevation. Forested sites with moderately well-drained soils, appears to prefer openings and well-lighted areas.

Description: Low-growing perennial, spreading by trailing stems; short erect leafy stems 2-4 inches tall, shiny evergreen leaves.

Leaves: Opposite, small, shiny and leathery, broadly elliptic with a rounded tip, few coarse teeth on upper margin; evergreen.

Flowers: (June - September) Small pink flaring bell with 5 lobes, hanging in pairs at the end of a leafy stem; bumblebee pollinated.

Fruit: Small dry 1-seeded fruit.



Distribution of twinflower on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

SUBALPINE LUPINE

Lupinus latifolius LULA

Range: Cascades and Olympic Mountains; Alaska south to California.

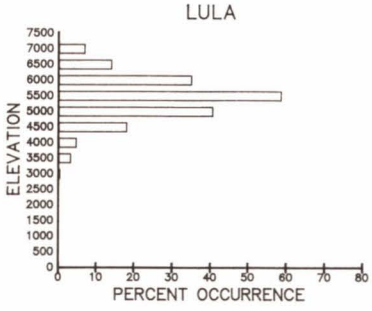
Habitat and Distribution: Forests at high elevations in drier environmental zones, and moist subalpine meadows. Generally well-drained soils in areas with substantial snow accumulation.

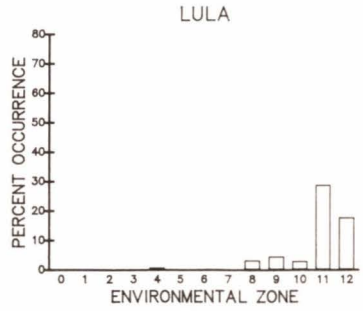
Description: Low-growing perennial generally 1-2 feet in height; plant hairy, bluish pea-like flowers.

Leaves: Alternate, compound leaves with 5-9 leaflets radiating from a central point, soft hairy.

Flowers: (June - August) Showy, elongate terminal cluster of blue, lavendar or whitish, pea-like flowers; bee pollinated.

Fruit: Pod, splits at maturity releasing several seeds.





Distribution of subalpine lupine on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

SKUNK CABBAGE

Lysichitum americanum LYAM

Range: Alaska south to California, east and less common in British Columbia, Idaho and Montana.

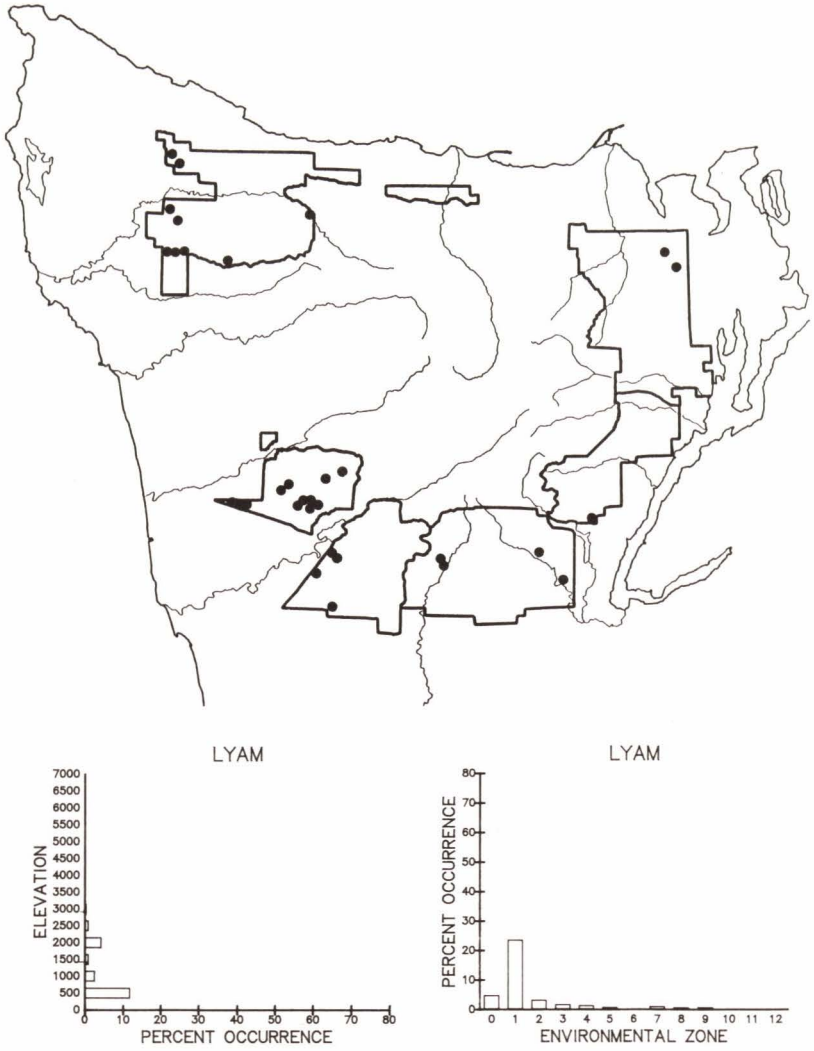
Habitat and Distribution: Found mostly at low elevations in the wetter environmental zones. Occurs in wet, swampy areas with organic soils, often with stagnant water.

Description: Perennial with stout fleshy root, robust basal leaves, yellow flowers appear early in the spring before the leaves develop. Leaves are often browsed by elk.

Leaves: Basal rosette of large robust leaves up to 3 feet long, broadly lance-shaped or oblong with thick spongy midvein.

Flowers: (February - July) Showy, bright yellow leaf-like hood, partially surrounding stout spike of small greenish flowers.

Fruit: Small pulpy fruit with 1 or 2 seeds.



Distribution of skunkcabbage on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

DEVIL'S CLUB

Oplopanax horridum OPHO

Range: Coast to western Cascades; south from Alaska to southern Oregon, east in northern Washington and southern British Columbia to Idaho and Montana; Michigan and Ontario.

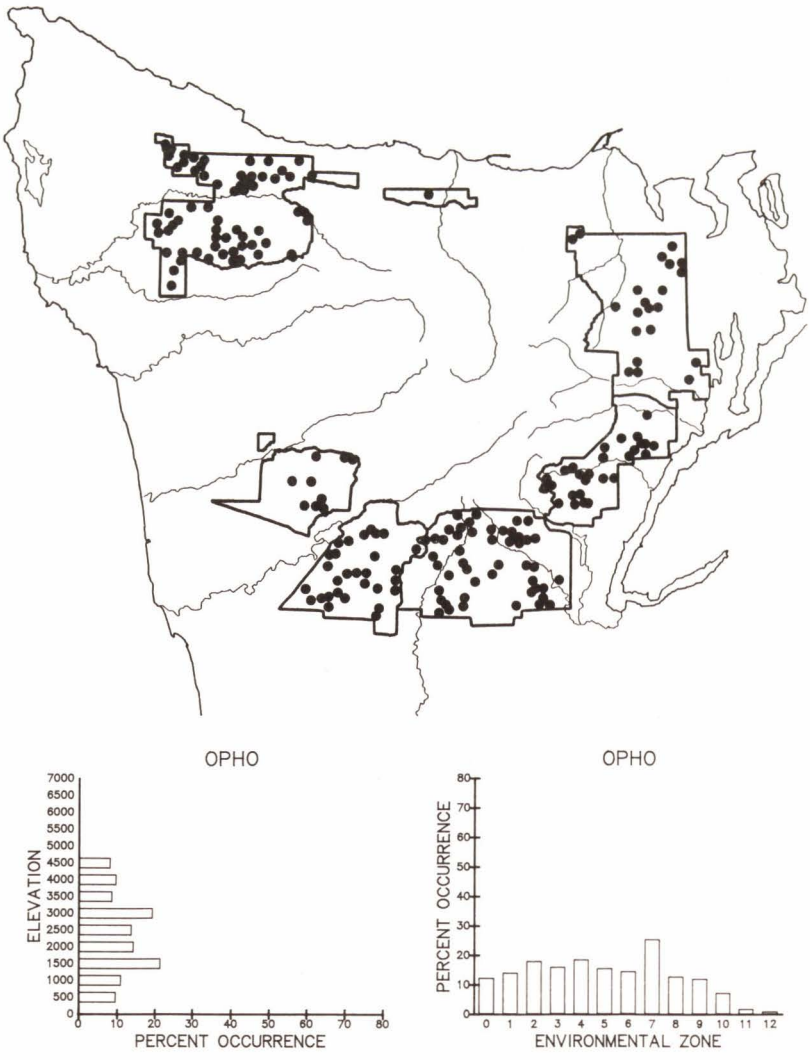
Habitat and Distribution: Occurs sporadically from sea level to 4500 ft. elevation, in all but the driest environmental zones. Occupies wet sites, often in seeps and drainages, soils saturated for most of the year.

Description: Medium to large shrub, may reach 10 to 12 feet in height, often occurring in formidable thickets; stems long and slender, more or less erect, densely armed with sharp stiff yellowish spines, leaves clustered near the end of the stem. Elk browse leaves and young shoots.

Leaves: Alternate, large and maple-like with toothed margins, spines on the leaf stems and leaf veins; deciduous.

Flowers: (May - July) Conspicuous, elongate, terminal cluster of small greenish-white flowers.

Fruit: Elongate cluster of deep red berries, somewhat flattened, slightly ribbed.



Distribution of devil's club on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

OXALIS

Oxalis oregana OXOR

Range: Olympics and coastal mountains south to Monterrey County, California, in the Cascades from near Mt. Rainier to southern Oregon.

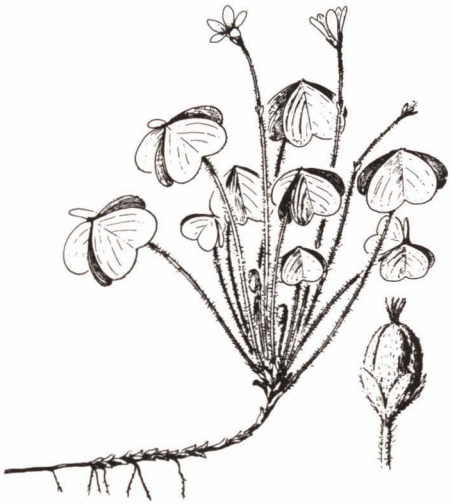
Habitat and Distribution: Common on the west side of the Forest, at low elevations and in wet environmental zones. Moist forests in areas with maritime climate, high precipitation and summer fog. Soils may be low in calcium and phosphorus.

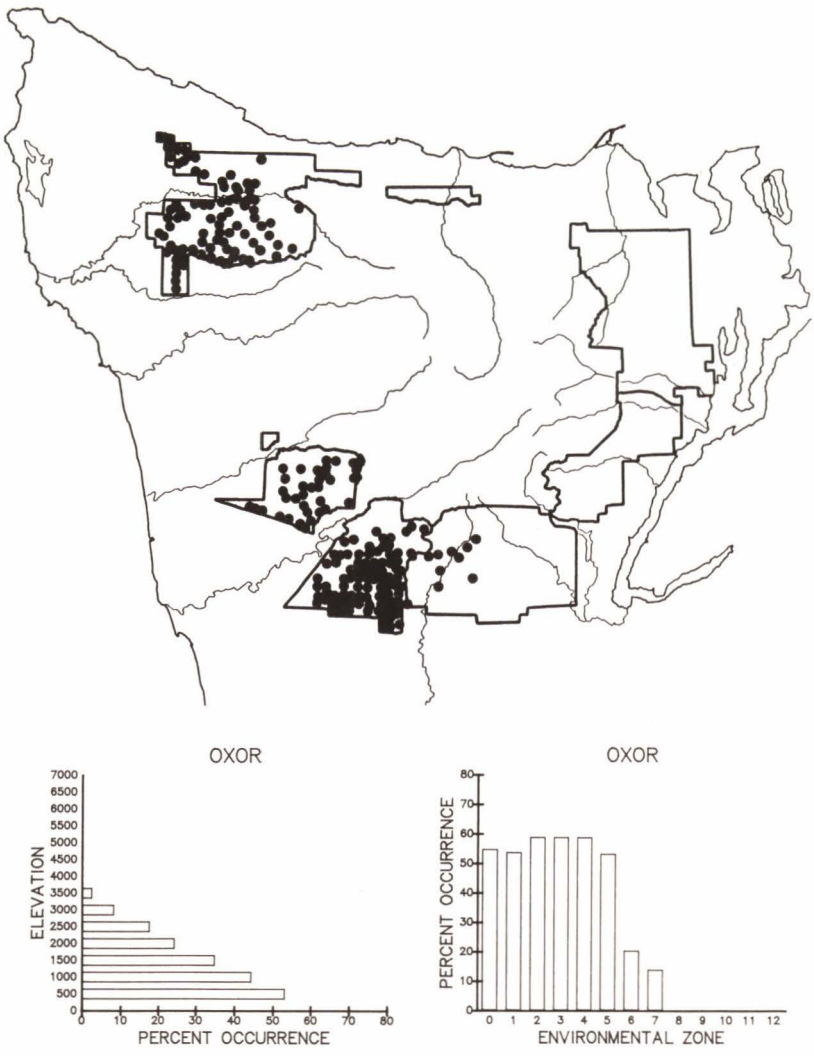
Description: Low-growing perennial with shamrock leaves, spreading by rhizomes, often carpeting the forest floor.

Leaves: "Shamrock" leaves with 3 leaflets, rounded or shallowly lobed, borne on the end of a slender, reddish-green stalk, leaf stalk often hairy.

Flowers: (April - September) Small, 5 white to pink petals, often with reddish veins.

Fruit: Small oblong capsule.





Distribution of oxalis on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

RED HEATHER

Phyllodoce empetriformis PHEM

Range: Subalpine areas of the Cascades and Olympics; Alaska south to California, east to Idaho and Montana.

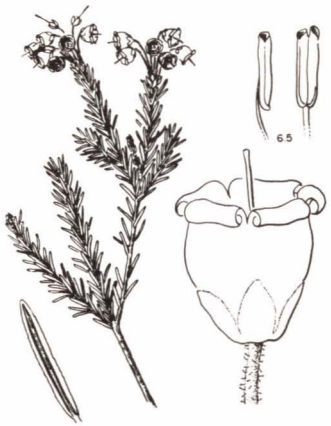
Habitat and Distribution: High elevation sites throughout the Forest, meadow and parkland sites with deep snowpack which generally melts by early summer, shallow and coarse-textured soils.

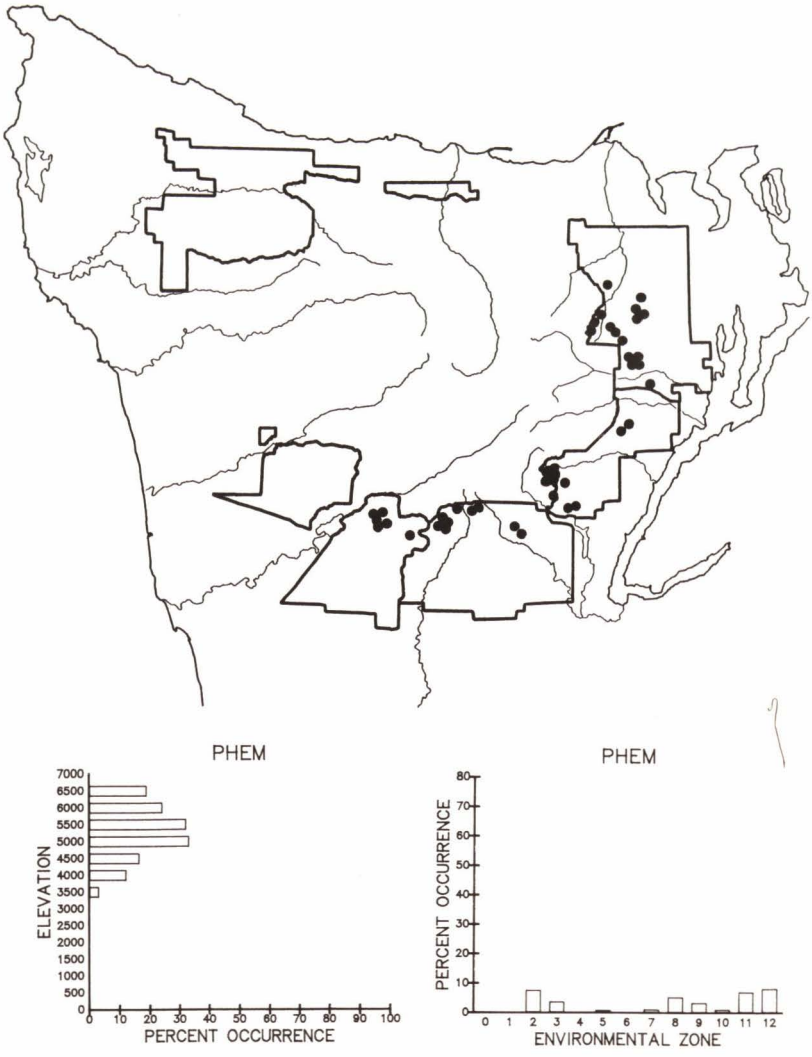
Description: Low-growing, sprawling shrub with needle-like leaves.

Leaves: Alternate, short, stiff, needle-like leaves, grooved on the lower surface; evergreen.

Flowers: (June - August) Showy, pink to reddish, bell-shaped flowers, nodding in a cluster at the branch tips, short flowering stalks have reddish-glandular hairs; bumblebee pollinated.

Fruit: Small capsule, splits at the apex to release seeds.





Distribution of red heather on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

SWORDFERN

Polystichum munitum POMU

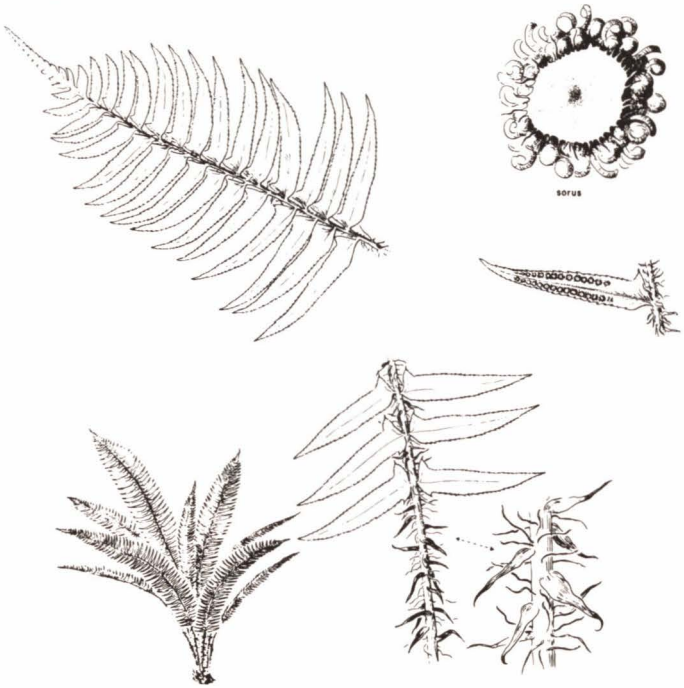
Range: Western Cascades, Olympics and Coast Ranges; south from Alaska to California, east to northwestern Montana.

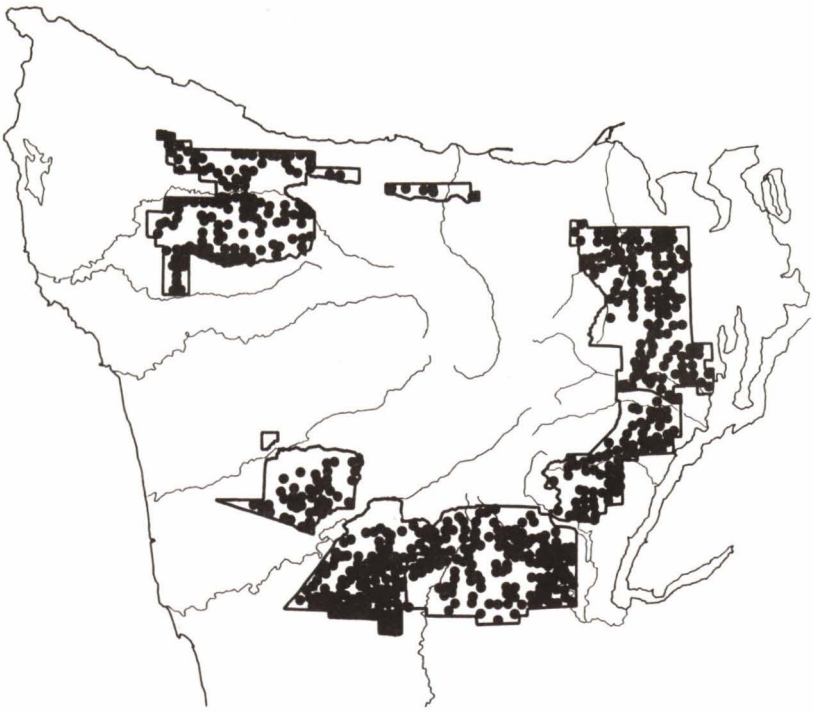
Habitat and Distribution: Common and locally abundant throughout the Forest, in all but high elevations and the driest environmental zones. Mesic forests, but not common where snowpack is deep. More abundant on sites with fertile soils that are well-watered with subsurface water from upslope, common on toe-slopes.

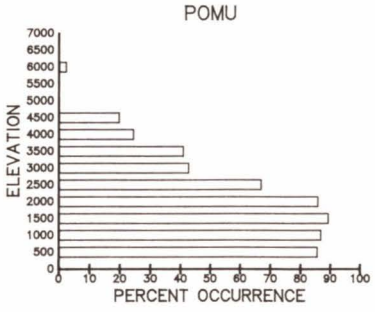
Description: Robust fern up to 3 feet in height on favorable sites; large, erect, sword-shaped leaves in radiating cluster from a stout scaly rhizome, chaffy brown scales on stem.

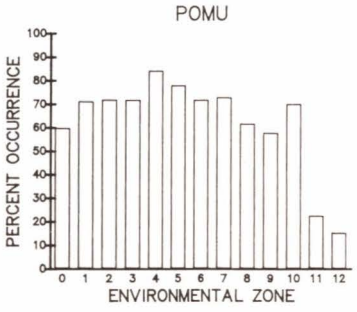
Leaves: Dark green leathery leaves, broadly sword-shaped with acute tip, pinnately divided, leaflets with a prominent tooth at the base adjacent to the single point where the leaflet attaches to the midvein, fine-toothed margin; evergreen for several years, withered fronds remain attached to rhizome.

Sori: Clusters of spore sacs in two rows on underside of leaflets, borne between leaf margin and midvein.









Distribution of swordfern on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

WHITE RHODODENDRON

Rhododendron albiflorum RHAL

Range: Cascade and Olympic Mountains, north to British Columbia, east to western Montana.

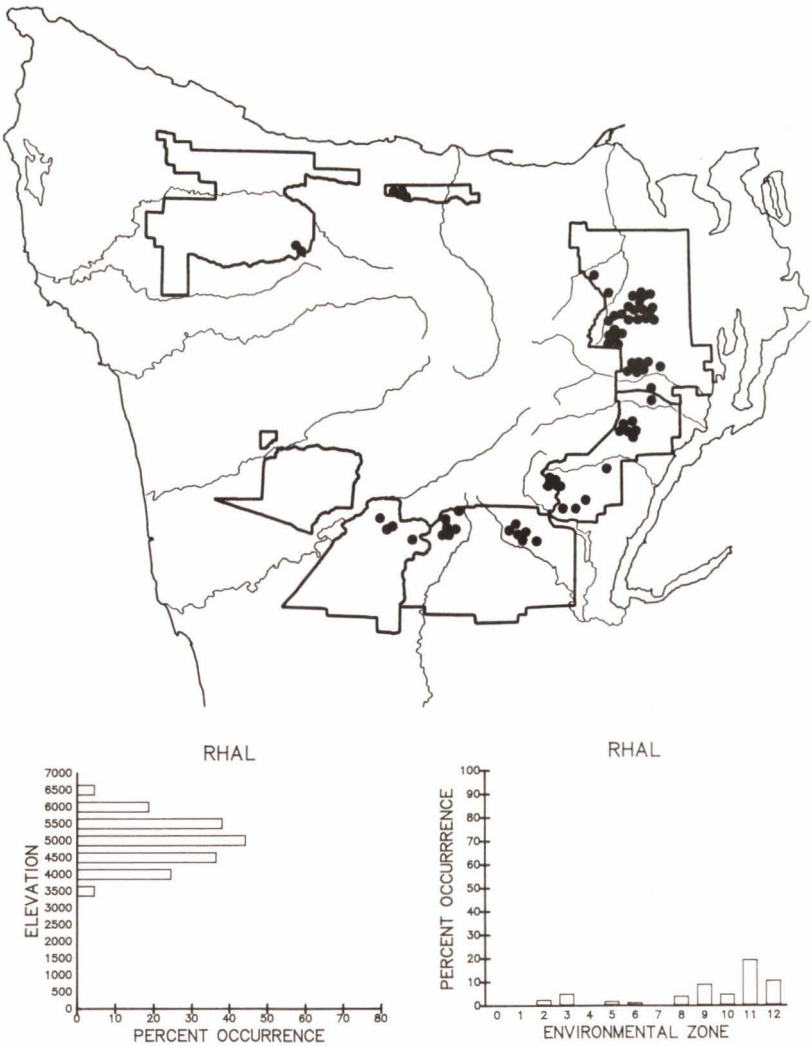
Habitat and Distribution: High elevations, but more common in the drier environmental zones. Montane forests, parkland and open slopes with moderate to deep snowpack, often on the leeward side of ridges. Cold, often moist soils which may become dry by mid-season.

Description: Small to medium-sized shrub, usually less than 6 feet in height, growth form similar to Fool's Huckleberry (MEFE), but leaves are shiny; leaves often clustered near branch tips, but also scattered along the stem, branches with reddish hairs.

Leaves: Alternate, shiny, elliptic leaves about 3 inches long; deciduous, turning brilliant shades of orange, red and gold in the fall.

Flowers: (June - August) Showy, white or cream colored, open bell-shaped flowers, borne in clusters from leaf axils or occasionally on terminal stems, flowering stems and sepals with sticky red hairs.

Fruit: Woody capsule with small seeds.



Distribution of white rhododendron on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

RHODODENDRON

Rhododendron macrophyllum RHMA

Range: Cascades and Coast Range of Oregon to northern California; sporadic distribution in Washington, primarily northeastern Olympics, and a small isolated population southwest of Mt. Rainier; coastal British Columbia.

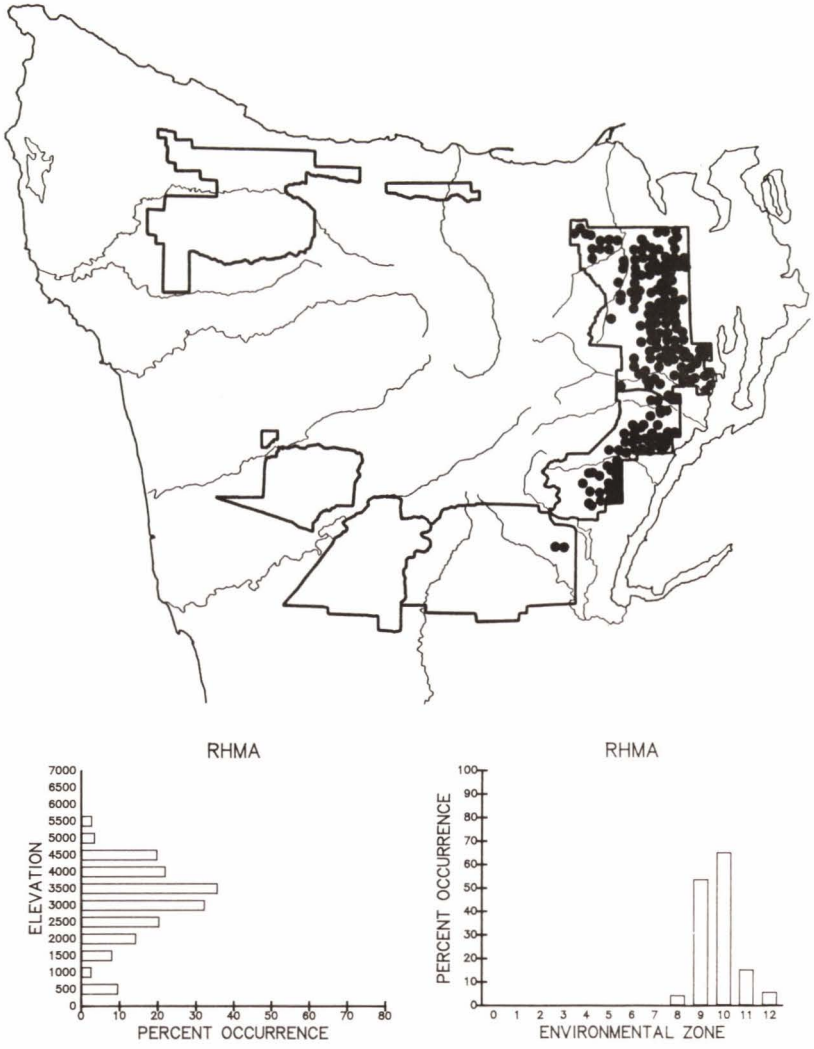
Habitat and Distribution: Most common in the drier environmental zones at mid-elevations, but occurring from near sea level to above 4500 feet. Conifer forests on sites with shallow or imperfectly drained soils, generally low in nutrients and possibly deficient in nitrogen or other nutrients.

Description: Medium to large shrub reaching heights of 15 feet, leaves appear clustered near branch tips, shallow rooted.

Leaves: Alternate, elliptic, leathery leaves up to 8 inches long; evergreen.

Flowers: (May - July) Large showy pink flowers in compact terminal clusters, margins of petals wavy; bee pollinated.

Fruit: Woody capsule with small seeds, old capsules persist on stems.



Distribution of rhododendron on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

BALDHIP ROSE

Rosa gymnocarpa ROGY

Range: Western Cascades and Olympics; southern British Columbia to northwestern Montana and western Idaho, south to Sierra Nevada.

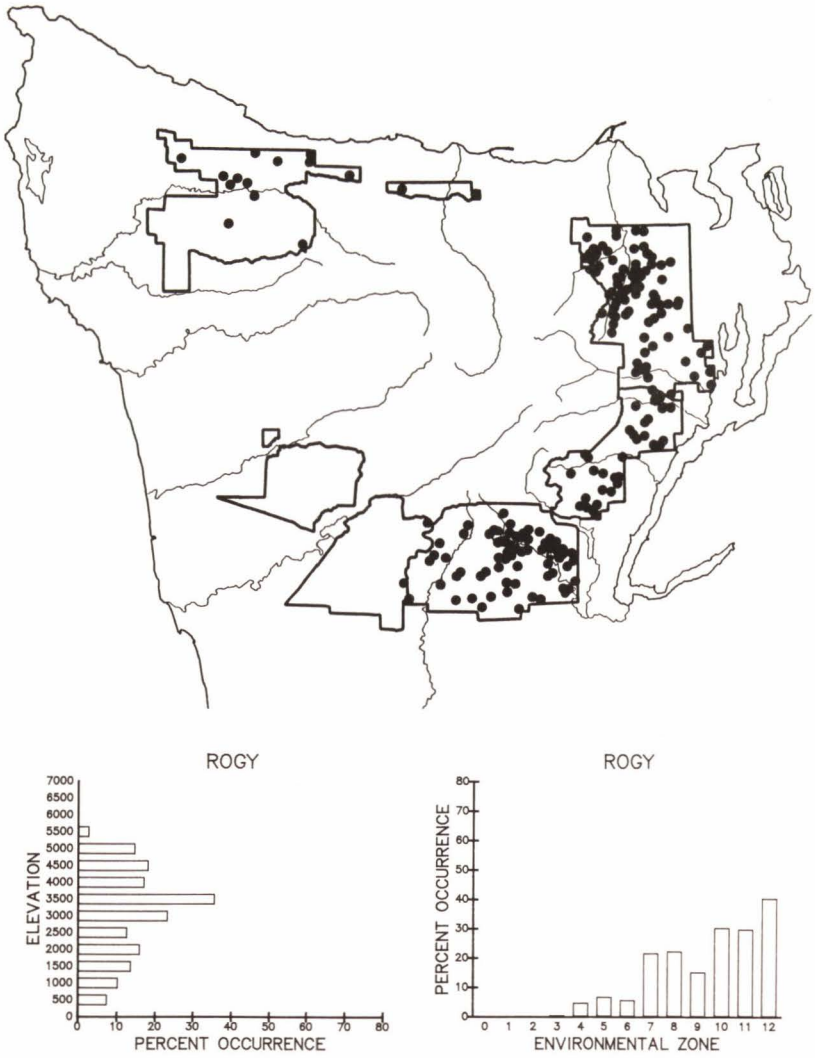
Habitat and Distribution: Occurs from near sea level to over 5000 ft elevation, most common at mid-elevations and in drier environmental zones; apparently absent in the wet climatic areas. Moist, but more often on dry sites in relatively open forests.

Description: Small to medium-sized shrub up to 6 feet in height; branches often densely armed with straight, slender prickles.

Leaves: Alternate, pinnately lobed with 5-9 leaflets, leaf stems with gland-tipped hairs, margins jagged with coarse often gland-tipped teeth; deciduous.

Flowers: (June - July) Small fragrant rose with 5 pink petals and numerous stamens.

Fruit: Rose hip, deep red or orangish-red, smooth, elliptic or pear-shaped; distinctive feature is that the sepals are not found on the mature fruit--thus the Latin name "gymnocarpa" which means naked fruit; birds forage on rose hips and disperse the seeds.



Distribution of baldhip rose on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

FIVE-LEAVED BRAMBLE

Rubus pedatus RUPE

Range: Cascade and Olympic Mountains; Alaska to southern Oregon and east to the northern Rocky Mountains.

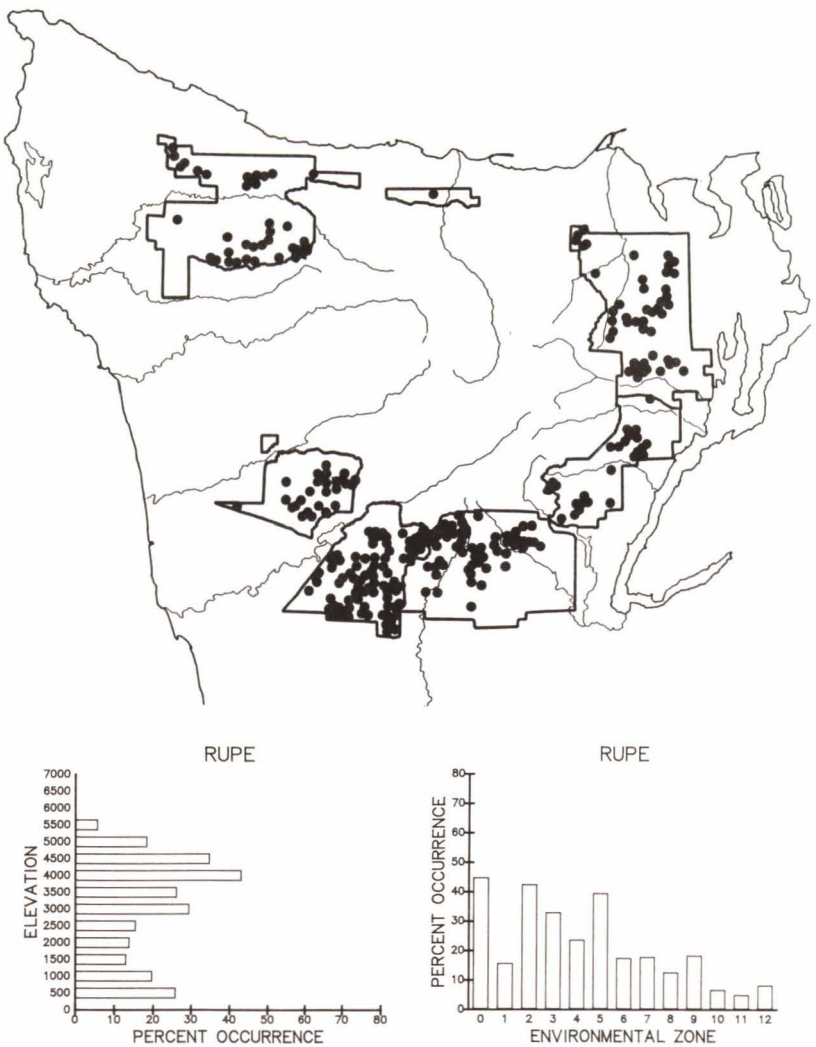
Habitat and Distribution: Low elevation maritime areas and from 3000-5000 ft. elevation in areas with winter snowpack, more common in wetter environmental zones, generally on cool mesic sites.

Description: Low-growing trailing perennial, spreading by creeping stems and sometimes forming extensive mats on the forest floor, short erect stems arise at regular intervals which bear 1-3 leaves, stems root at the leaf nodes.

Leaves: Compound leaves, generally with 5 leaflets, margins jagged with double teeth, pair of membranous stipules at the base of the leaf stem; leaves persistent.

Flowers: (May - July) Solitary, small white flowers with 5 petals and numerous stamens, borne at the end of a short leafless stalk; bumblebee pollinated.

Fruit: Small fleshy red fruits, single-seeded, aggregated in loose cluster.



Distribution of five-leaved bramble on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

SALMONBERRY

Rubus spectabilis RUSP

Range: Western Cascades to the coast and Olympics, rare east of the Cascade crest; Alaska to northwestern California.

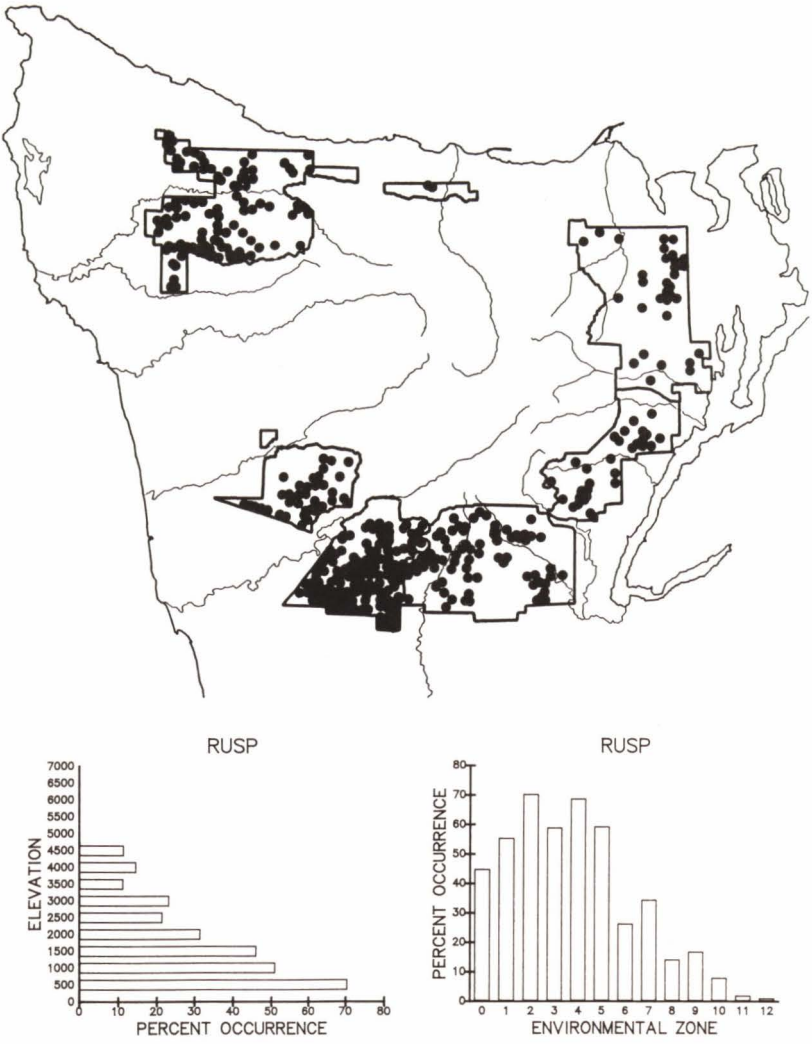
Habitat and Distribution: Occurs throughout the Forest, but more common at lower elevations and in the wetter environmental zones. Common and locally abundant in well-watered sites from near sea level to montane, soils generally saturated for much of the year.

Description: Medium-sized shrub up to 15 feet in height, bark chestnut brown and peeling, stems armed with short straight prickles; extensive rhizomes, shrubs often forming dense thickets. Elk browse leaves and shoots, used for food and cover by birds and small animals.

Leaves: Alternate, 3 leaflets forming a triangle, ovate with acute tip and jagged-toothed margins; deciduous.

Flowers: (March - June) Showy rose-like flowers with 5 dark pink petals and numerous stamens; pollinated by bumblebees and hummingbirds.

Fruit: Edible, resembling a raspberry, orange to deep red when mature, variable in flavor.



Distribution of salmonberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

STAR-FLOWERED SOLOMON'S SEAL

Smilacina stellata SMST

Range: Wide distribution; Alaska to California, east to Rocky Mountains and Atlantic Coast.

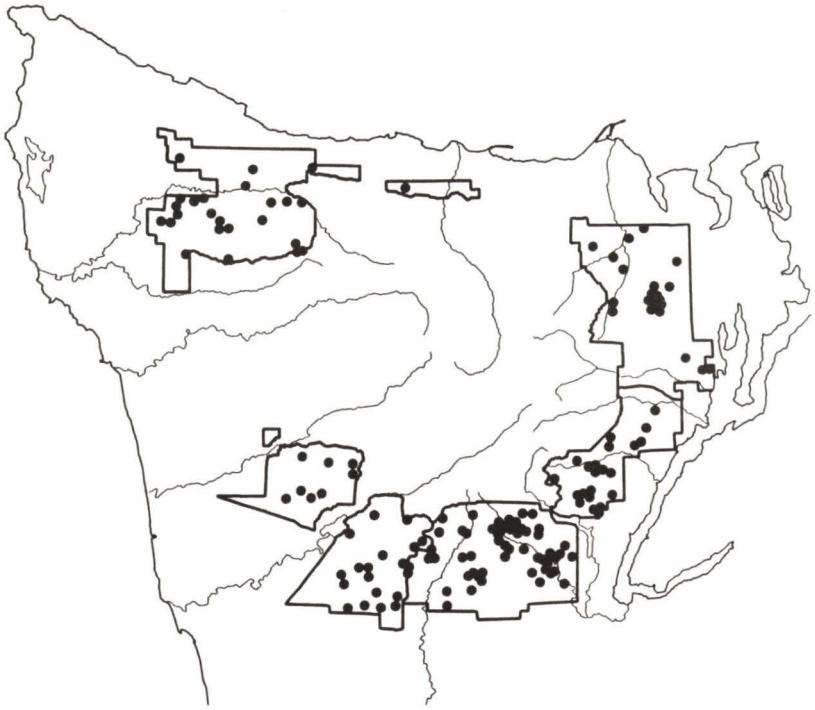
Habitat and Distribution: Occurs throughout the Forest, but is rare in the driest environmental zones, mostly from 1000-4000 ft in elevation, wide range of habitats, usually not very abundant.

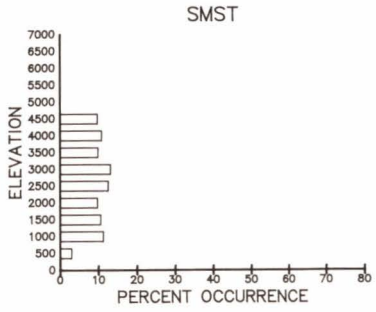
Description: Low-growing perennial, rarely over 1 foot in height, unbranched stem, may form dense patches from spreading rhizomes. Similar growth form to Rosy Twisted-stalk (STRO), but leaves are narrower and lack the fringe of hairs at the junction of the leaf base and stem.

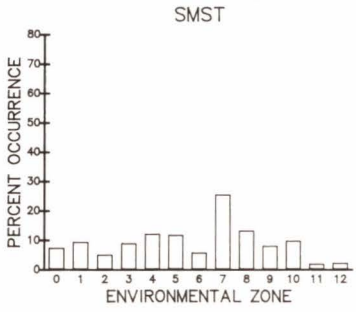
Leaves: Alternate, narrow elliptic leaves with sharp tip, prominent parallel veins.

Flowers: (May - June) Star-like, small white flowers in sparse, open cluster, terminal on leafy stem.

Fruit: Small greenish berries with purple stripes, becoming dark red or brownish when mature.







Distribution of star-flowered solomon's seal on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

ROSY TWISTED-STALK

Streptopus roseus STRO

Range: Cascades of Washington and northern Oregon, Coast Range and Olympics; north to Alaska.

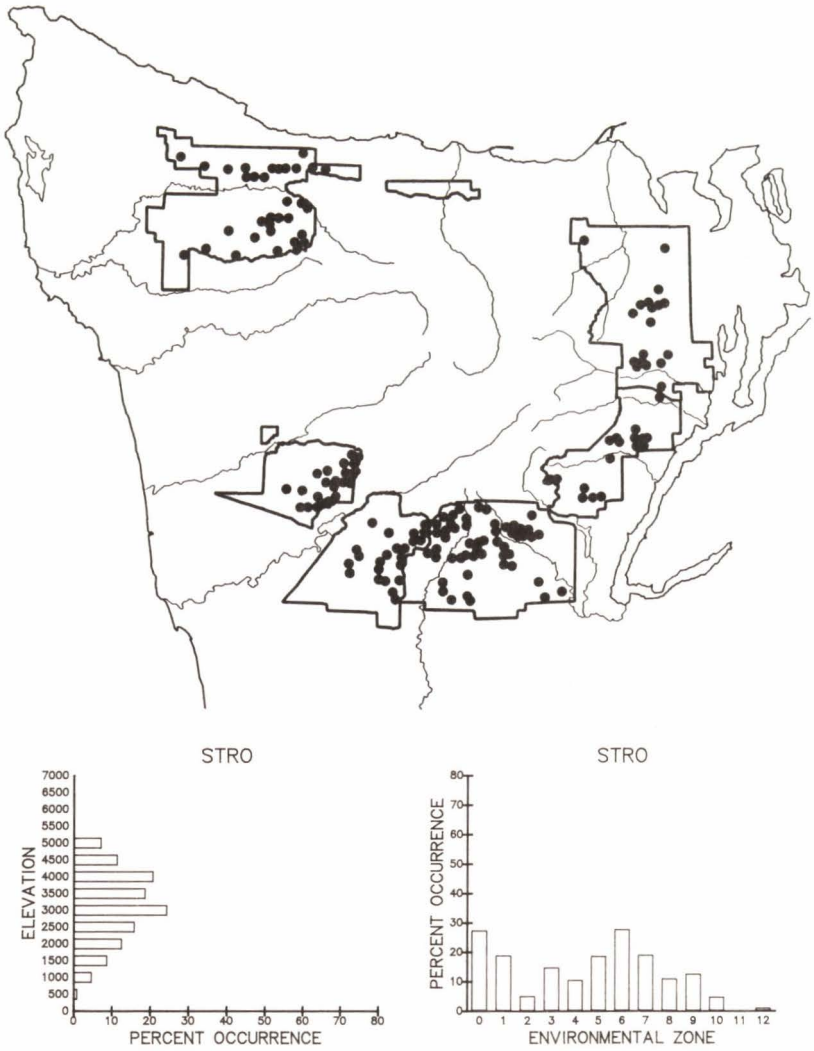
Habitat and Distribution: Occurs mostly at mid-elevations in areas with winter snowpack, except in the driest environmental zones. Generally on cool, moist microsites.

Description: Low-growing perennial, unbranched stems, rhizomatous; similar growth form to Star-flowered Solomon's Seal (SMST), but leaves are slightly broader and with fringe of hairs on stem at leaf base.

Leaves: Alternate, ovate to elliptic, fringe of hairs at junction of leaf base and stem, inconspicuous hairs on leaf, leaf base clasps the stem, prominent parallel veins.

Flowers: (June - July) Deep red (rarely greenish), single flowers hanging under leaves, borne on slender stalk from leaf node.

Fruit: Red berry with few seeds.



Distribution of rosy twisted-stalk on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

THREE-LEAVED FOAMFLOWER

Tiarella trifoliata TITR

Range: Cascades, Olympics and coast ranges from Alaska to California, does not occur on the east side of the Cascades.

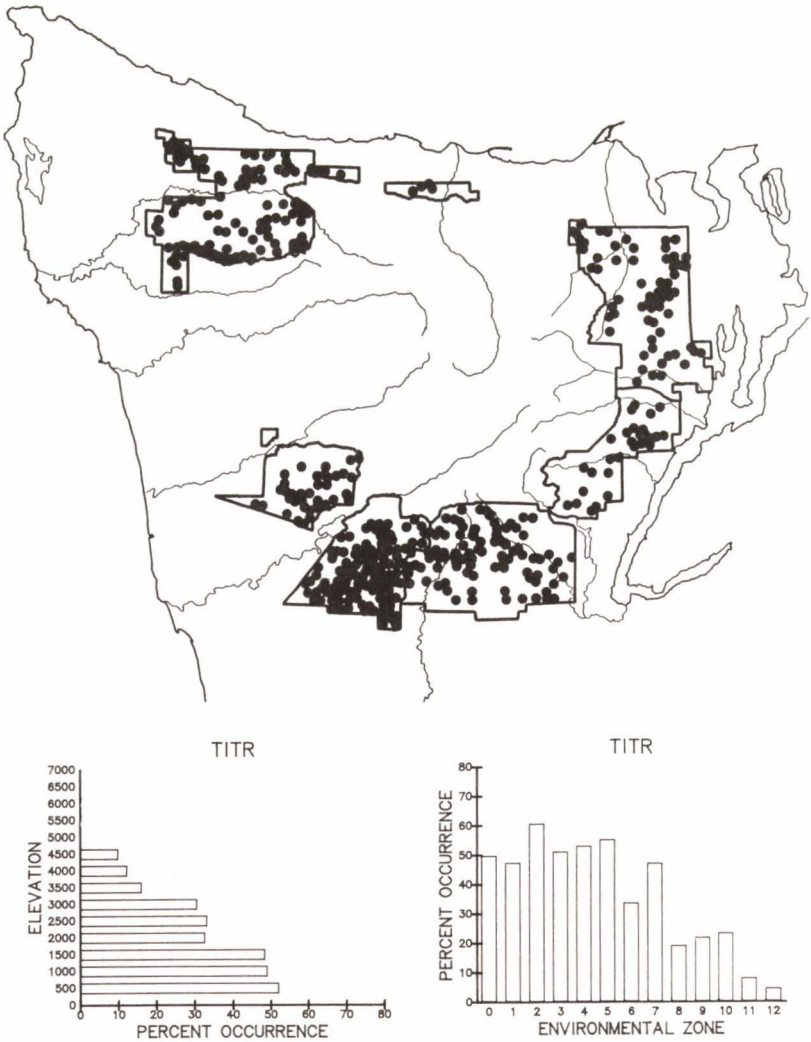
Habitat and Distribution: Occurs throughout the Forest, more commonly at lower elevations and in wetter environmental zones. Generally on cool, moist sites.

Description: Low-growing perennial, spreading by slender rhizomes, stem and leaves somewhat hairy.

Leaves: Broad hairy leaves, divided into 3 distinct leaflets, margins are coarse-toothed or somewhat scalloped, each tooth with a minute point; leaves are mostly basal on the end of a long, sparsely hairy stalk, few leaves alternate on the flowering stem.

Flowers: (May - August) Tiny but conspicuous, white nodding flowers with 10 stamens which hang below the petals; elongate, few-flowered cluster on the end of a stalk with 1 or 2 leaves, lowest flowers developing first.

Fruit: Small capsule with several shiny black seeds.



Distribution of three-leaved foamflower on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

SINGLE-LEAVED FOAMFLOWER

Tiarella unifoliata TIUN

Range: Cascades, Olympics and coast ranges from Alaska to California, east to Alberta, Idaho and Montana, and northeastern Oregon.

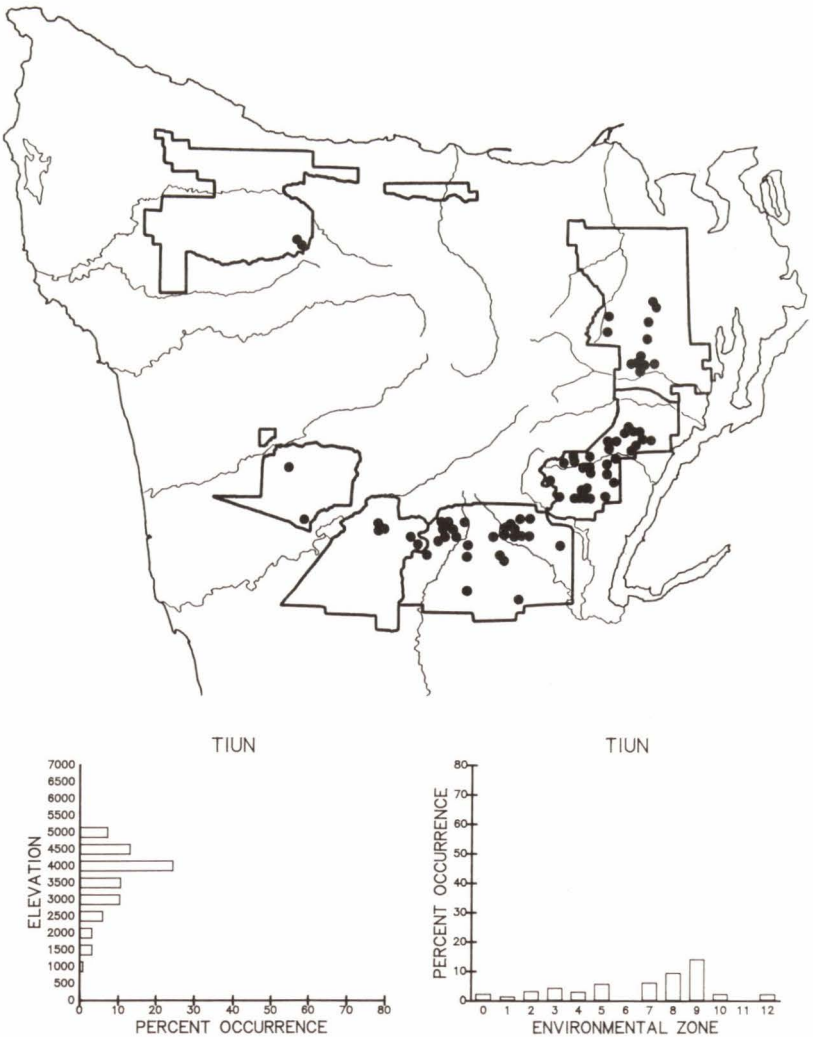
Habitat and Distribution: Occurs sporadically across the Forest, but is less common than three-leaved foamflower. Found mainly in the mesic environmental zones and at mid-elevations on cool, moist sites.

Description: Low-growing perennial, spreading by slender rhizomes, stem and leaves somewhat hairy.

Leaves: Broad hairy leaves, maple-like with 3-5 lobes, the lobes divided less than halfway to the base, margins are coarse-toothed or somewhat scalloped, each tooth with a minute point; leaves are mostly basal on the end of a long, sparsely hairy stalk, few leaves alternate on the flowering stem.

Flowers: (May - August) Tiny but conspicuous, white nodding flowers with 10 stamens which hang below the petals; elongate, few-flowered cluster on the end of a stalk with 1 or 2 leaves, lowest flowers developing first.

Fruit: Small capsule with several shiny black seeds.



Distribution of single-leaved foamflower on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

ALASKA HUCKLEBERRY

Vaccinium alaskaense VAAL

Range: Cascades, Olympics and coast ranges from Alaska to northwestern Oregon.

Habitat and Distribution: Occurs throughout the Forest from near sea level to above 4000 feet, in all but the driest environmental zones. More common at mid-elevations where snow accumulates, and at lower elevations in the maritime climatic areas. Generally found on cool, moist sites.

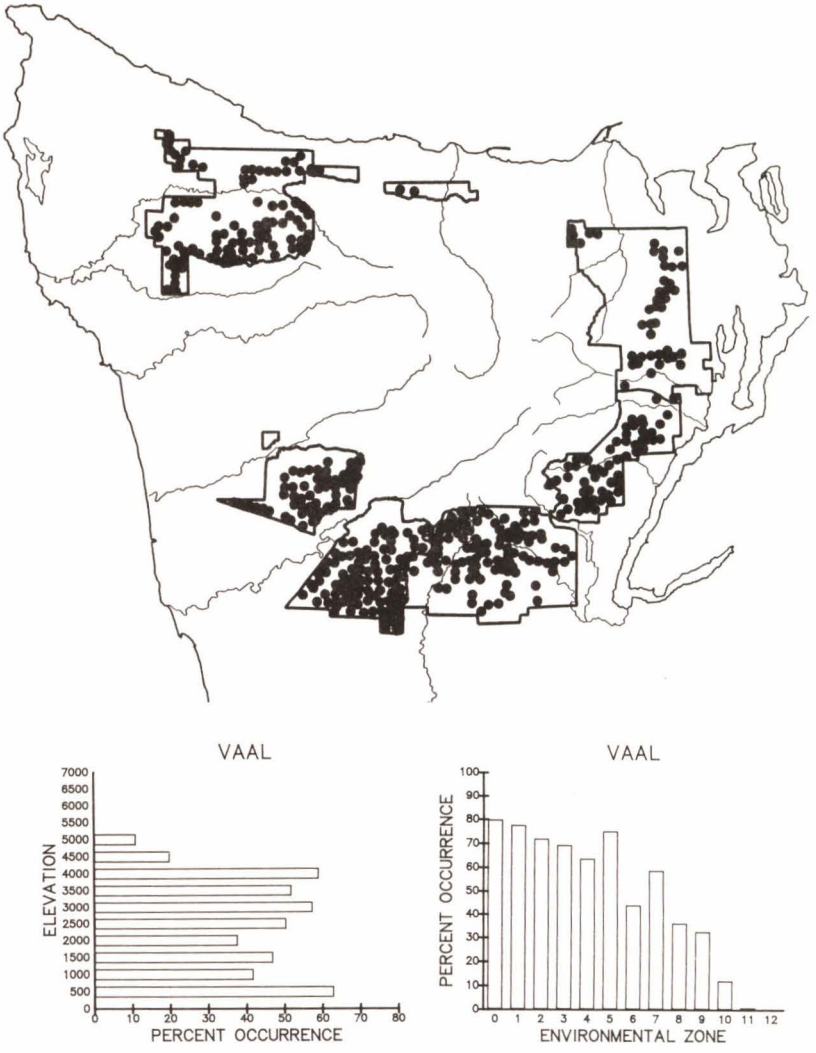
Description: Small to medium-sized shrub, typically 3 to 5 feet in height, bark grayish, younger stems yellowish-green, less often reddish-brown, young stems only somewhat angled; flowers appear after the leaves develop.

Leaves: Alternate and ovate, midvein on underside of leaf with small gland-tipped hairs which may be obscure by the end of the growing season, midvein on lower surface somewhat imbedded in leaf, underside pale, margins sometimes with widely spaced inconspicuous teeth; deciduous.

Flowers: (May - June) Bronze or pinkish, urn-shaped, somewhat round with narrow mouth, borne singly on straight slender stalks from leaf axils, flower stalks about 1/2 inch long and somewhat swollen above the ovary; bumblebee pollinated.

Fruit: Edible berry, dark blue or purplish-black; forage for birds and mammals which disperse the seeds.

Comments: Difficult to distinguish from VAOV: look for glands on the lower midvein, a partially imbedded midvein, long straight flowering stalks; berry may have slight "bloom" but much less so than VAOV.



Distribution of Alaska huckleberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

BLUE-LEAF HUCKLEBERRY

Vaccinium deliciosum VADE

Range: Mountain areas of Cascades and Olympics; southern British Columbia to northern Oregon.

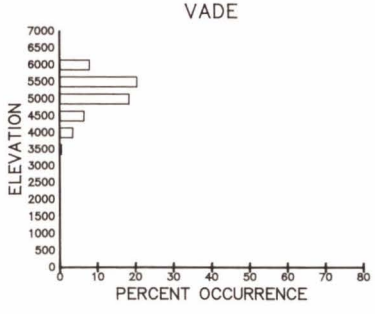
Habitat and Distribution: Limited to higher elevations above 4000 ft, in subalpine meadows and parkland. Cold, often open sites, generally deep snowpack which melts by early summer, shallow well-drained soils.

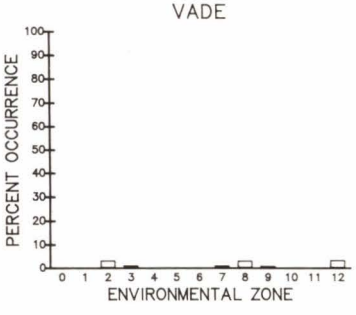
Description: Low-growing, often matted shrub, 1-2 feet in height, generally few-flowered, leaves turn brilliant red in the fall.

Leaves: Obovate, the widest part above the middle, somewhat leathery, no glands on the lower leaf surface, margins somewhat toothed along upper 1/2 to 2/3 of leaf, although teeth may be absent or inconspicuous.

Flowers: (May - June) Pink urn-shaped flowers, nearly as wide as long, borne singly on short stalks from leaf axils; bumblebee pollinated.

Fruit: Edible huckleberry--the tastiest of our local species, hence the Latin name "deliciosum"! Berry blue with white "bloom", prized by hikers, and eaten by birds and mammals which disperse the seeds.





Distribution of blue-leaf huckleberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

BIG HUCKLEBERRY

(Thin-leaved Huckleberry)

Vaccinium membranaceum VAME

Range: Mountains of Cascades and Olympics; British Columbia to northern California, east to northern Rocky Mountains.

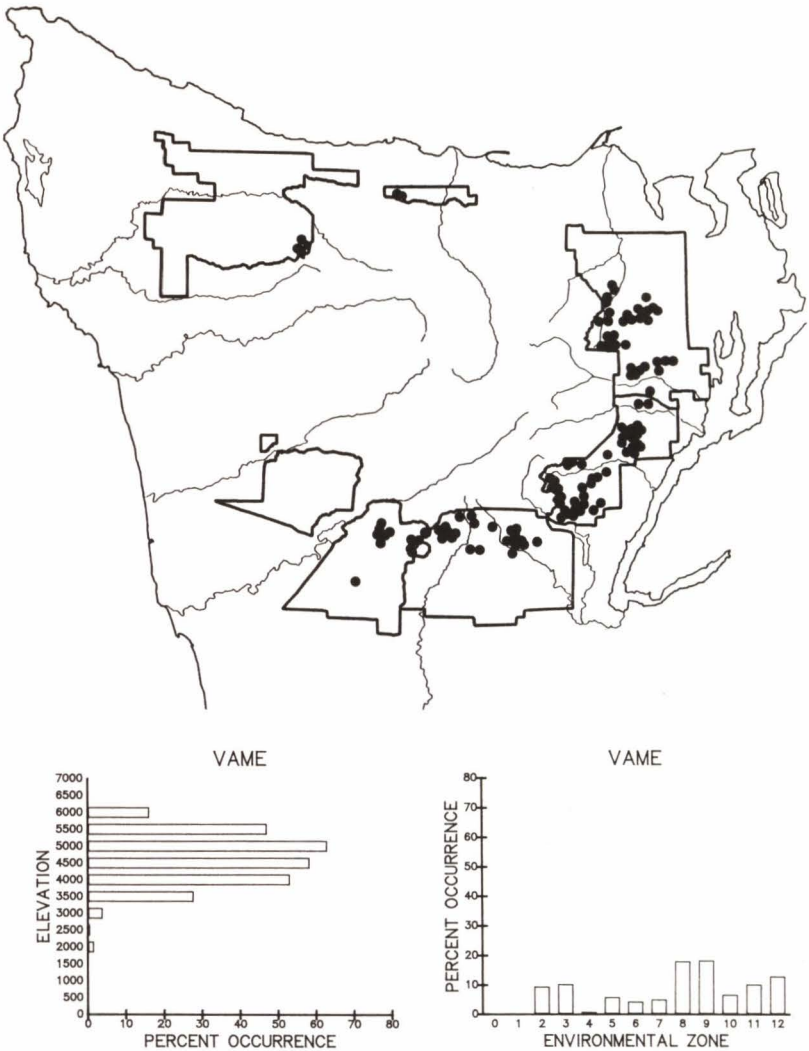
Habitat and Distribution: Occurs at mid-elevations from 3500-6000 feet in all but the wettest environmental zones. Generally on southerly exposures with well-drained soils and moderate snowpack.

Description: Small to medium-sized shrub, 2-5 feet in height, bark grayish-brown and shredding, leaves turning bright red in the fall. Browsed by deer and elk.

Leaves: Alternate, ovate with pointed tip and fine saw-toothed margin, thin, yellowish-green; deciduous.

Flowers: (April - June) Pale yellowish-pink, urn-shaped, longer than broad, borne singly on stalks from leaf axils; bumblebee pollinated.

Fruit: Edible sweet berry, shiny and purplish-black, up to 1/2 inch broad; favored by hikers and berry pickers, berries eaten by birds and mammals which disperse the seeds.



Distribution of big huckleberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

OVAL-LEAF HUCKLEBERRY

Vaccinium ovalifolium VAOV

Range: Cascades and west to the Olympics and coast ranges; Alaska to Oregon, east to Montana, also occurs in eastern United States and east Asia.

Habitat and Distribution: Occurs throughout the Forest except in the driest environmental zones, and more commonly at higher elevations. Cool moist sites in montane forest or openings.

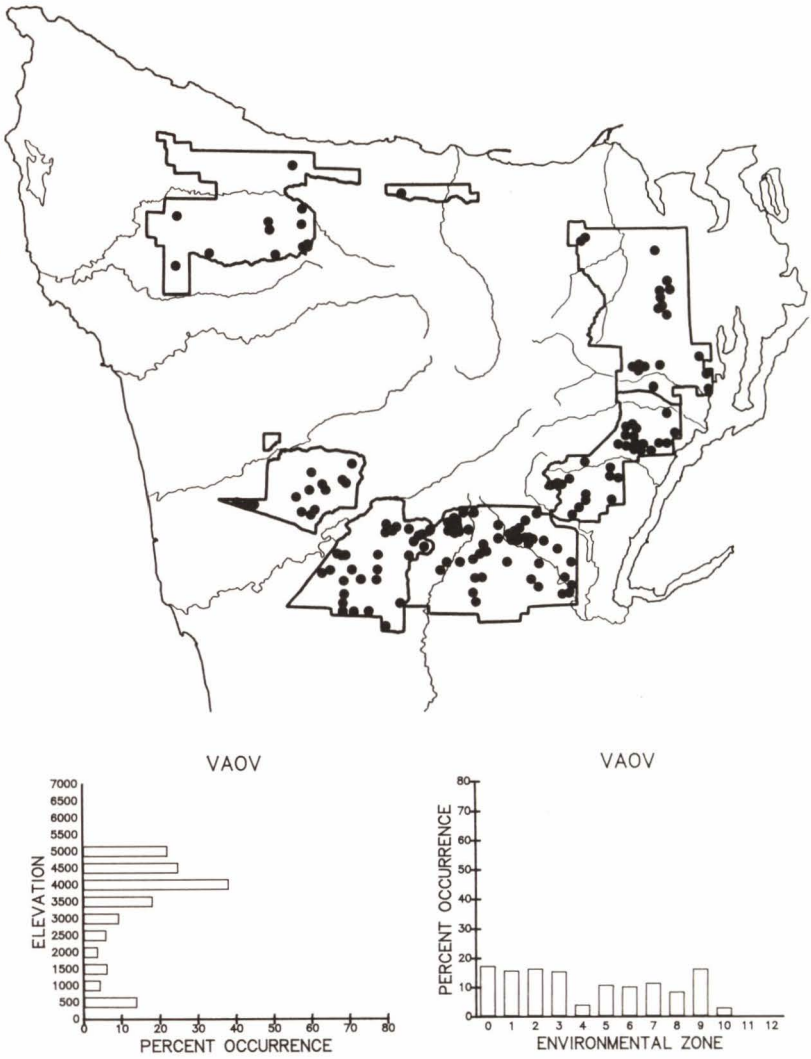
Description: Small to medium-sized shrub less than 5 feet in height; bark grayish-brown, young stems reddish, slender, angular and somewhat grooved; flowers appear before the leaves develop.

Leaves: Alternate, oval, prominent "raised" midvein on lower leaf surface, no glands on lower midvein; deciduous.

Flowers: (May - July) Pale pink, urn-shaped, slightly longer than broad, borne singly on short curved stalks from leaf axils, flower stalk not swollen above the ovary; bumblebee pollinated.

Fruit: Edible berry, deep blue with whitish "bloom", tart but sweet; eaten by birds and mammals which disperse the seeds.

Comment: Easily confused with VAAL: look on the lower leaf surface for a prominent midvein without glands, short curved flowering stalks, bluish berries with "bloom", young stems slender and often red.



Distribution of oval-leaf huckleberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

EVERGREEN HUCKLEBERRY

Vaccinium ovatum VAOV2

Range: Along coast and lowlands, but rare in the Oregon Cascades; west of Cascades from British Columbia to northern California; sporadic distribution and less common further south.

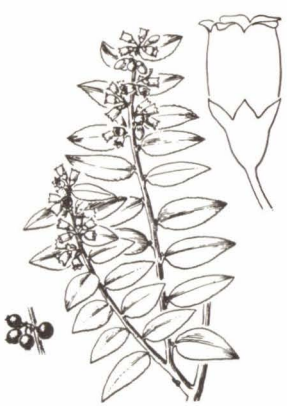
Habitat and Distribution: Occurs on the Forest at low elevations in the drier environmental zones (8-10) along Hood Canal, also in coastal forests off-Forest on the west side of the Olympic Peninsula. Well-drained, sandy or gravelly soils, often on glacial till.

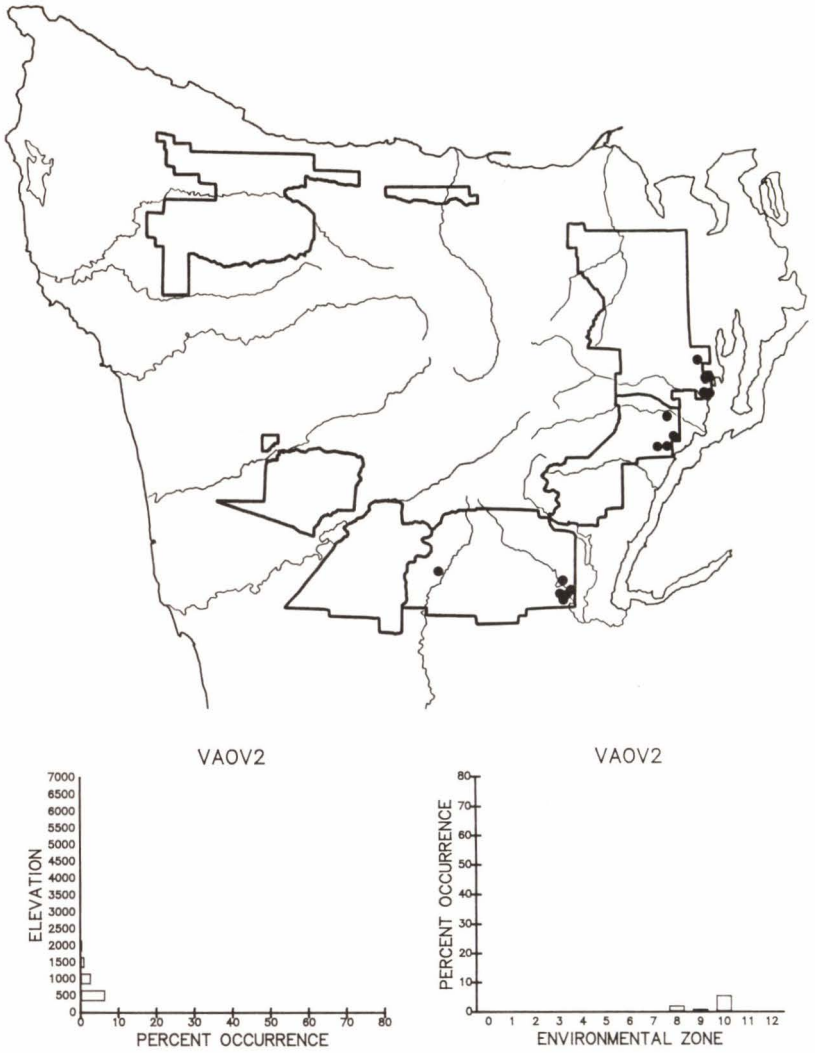
Description: Medium-sized shrub usually less than 12 feet in height; shiny evergreen leaves, neatly alternating in the same plane, berries clustered, reddish brown stems.

Leaves: Alternate, ovate, dark glossy green above, underside pale; firm and leathery; toothed margins; evergreen.

Flowers: (April - August) Small, pink, narrow bell-shaped flowers in small clusters from leaf axils; bumblebee pollinated.

Fruit: Edible huckleberry, shiny bluish purple with pale blue "bloom", clustered close to branches; sweet but somewhat mealy; eaten by birds and mammals which disperse the seeds.





Distribution of evergreen huckleberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

RED HUCKLEBERRY

Vaccinium parvifolium VAPA

Range: Western Cascades, Olympics and coast ranges; southeastern Alaska to central California, southeastern British Columbia.

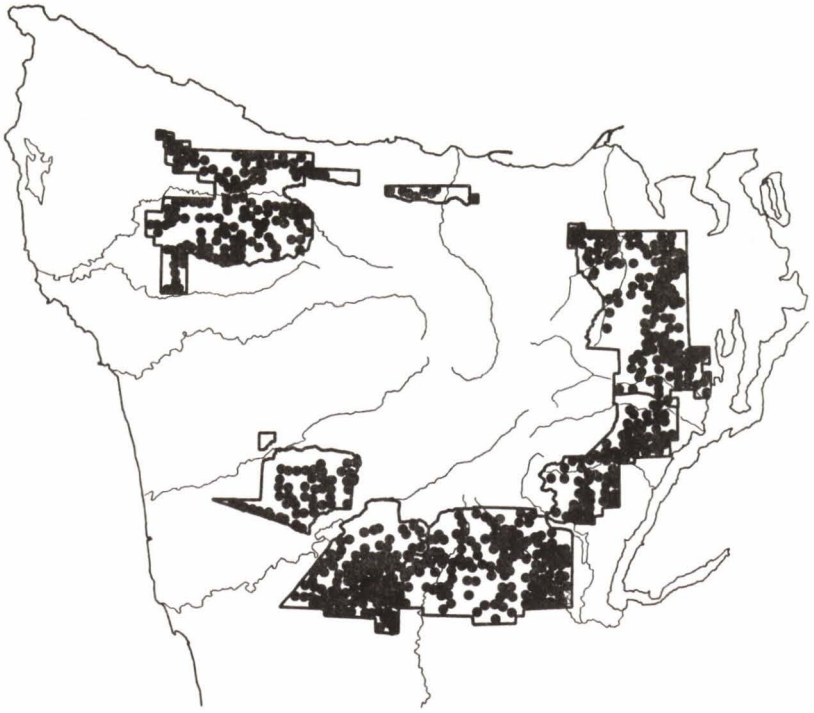
Habitat and Distribution: Common throughout the Forest, in the wet to mesic environmental zones and below 3000 ft. elevation. Warm, mesic to relatively dry sites in forests.

Description: Small to medium-sized shrub, reaching height of 12 feet, often found as epiphyte on stumps and rotting wood; distinctive "broom-like" branching pattern, branches strongly angled and remain green for several years. Deer commonly browse stems and foliage.

Leaves: Alternate, oval, and small (1/2 to 1 inch); gland-tipped hairs on lower midvein; deciduous.

Flowers: (April - June) Small and inconspicuous, pale pink or yellowish and waxy, urn-shaped; borne singly on short stalks from leaf axils; bumblebee pollinated.

Fruit: Edible but tart berry, translucent red, often numerous on bush; eaten by birds and mammals which disperse the seeds.



Distribution of red huckleberry on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

BEARGRASS

Xerophyllum tenax XETE

Range: Cascades and Olympics, British Columbia east to northern Rocky Mountains, in Cascade Mountains south from Snoqualmie Pass to California.

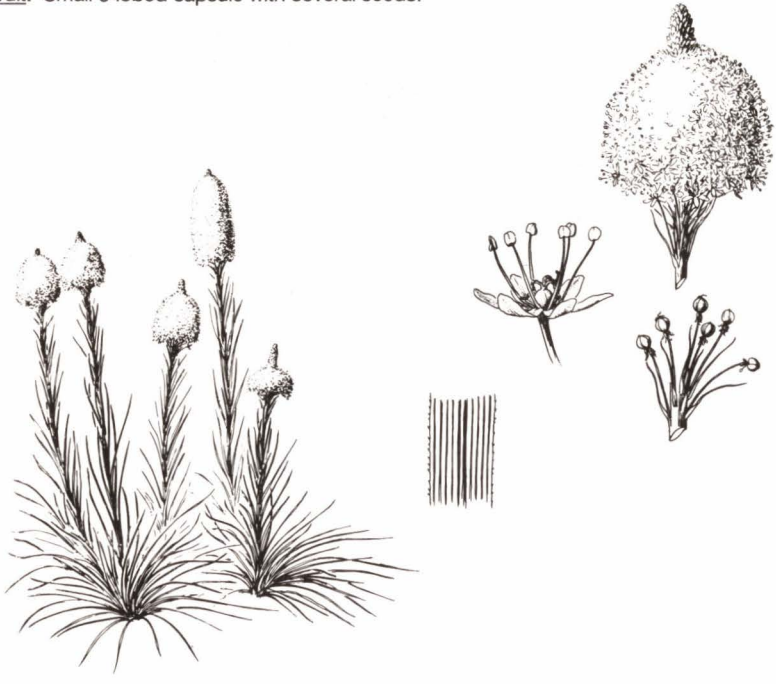
Habitat and Distribution: Most common in Environmental Zones 7-9 at mid- to high elevations, also occurs on wet sites at low elevation along the west side of the Forest, and dry sites on glacial outwash and till on the east side of the Forest.

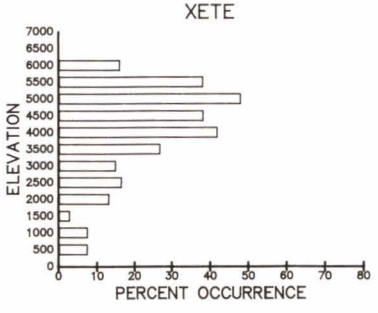
Description: Perennial with large tuft of grass-like leaves and stout rhizome, reproduces vegetatively by offshoots on rhizome, offshoot dies after flowering.

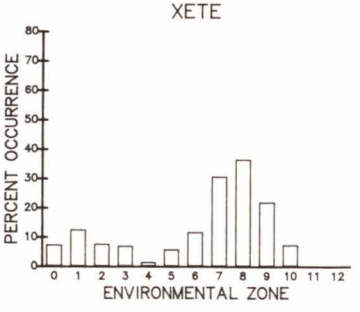
Leaves: Long and narrow, rough-edged with minute rigid teeth, basal leaves in dense cluster, progressively shorter and erect on flowering stem; evergreen.

Flowers: (May - August) Dense, showy, cone-shaped cluster of small white flowers, terminal on leafy flowering stalk up to 4 feet tall, often with a knob of flower buds on top of the cluster as lowest flowers mature first.

Fruit: Small 3-lobed capsule with several seeds.







Distribution of beargrass on the Olympic National Forest. Upper figure shows sampled locations for this species. Lower figures give the percent of sample plots by elevation band and environmental zone where this species occurred.

INDICATOR SPECIES OF THE OLYMPIC NATIONAL FOREST

COMMON NAME	SPECIES	CODE	PAGE
Alaska Huckleberry	*Vaccinium alaskaense*	VAAL	64
Avalanche Lily	*Erythronium montanum*	ERMO	20
Baldhip Rose	*Rosa gymnocarpa*	ROGY	50
Beargrass	*Xerophyllum tenax*	XETE	76
Bedstraw, Fragrant	*Galium triflorum*	GATR	24
Big Huckleberry	*Vaccinium membranaceum*	VAME	68
Blue-leaf Huckleberry	*Vaccinium deliciosum*	VADE	66
Bramble, Five-leaved	*Rubus pedatus*	RUPE	52
Bunchberry	*Cornus canadensis*	COCA	18
Common Juniper	*Juniperus communis*	JUCO4	30
Deerfern	*Blechnum spicant*	BLSP	14
Devil's Club	*Oplopanax horridum*	OPHO	38
Evergreen Huckleberry	*Vaccinium ovatum*	VAOV2	72
Fescue, Western	*Festuca occidentalis*	FEOC	22
Five-leaved Bramble	*Rubus pedatus*	RUPE	52
Foamflower, Single-leaved	*Tiarella unifoliata*	TIUN	62
Foamflower, Three-leaved	*Tiarella trifoliata*	TITR	60
Fragrant Bedstraw	*Galium triflorum*	GATR	24
Heather, Red	*Phyllodoce empetriformis*	PHEM	42
Huckleberry, Alaska	*Vaccinium alaskaense*	VAAL	64
Huckleberry, Big	*Vaccinium membranaceum*	VAME	68
Huckleberry, Blue-leaf	*Vaccinium deliciosum*	VADE	66
Huckleberry, Evergreen	*Vaccinium ovatum*	VAOV2	72
Huckleberry, Oval-leaf	*Vaccinium ovalifolium*	VAOV	70
Huckleberry, Red	*Vaccinium parvifolium*	VAPA	74
Kinnikinnick	*Arctostaphylos uva-ursi*	ARUV	10
Juniper, Common	*Juniperus communis*	JUCO4	30
Lily, Avalanche	*Erythronium montanum*	ERMO	20
Lupine, Subalpine	*Lupinus latifolius*	LULA	34
Maple, Vine	*Acer circinatum*	ACCI	6
Oceanspray	*Holodiscus discolor*	HODI	28
Oregongrape	*Berberis nervosa*	BENE	12
Oval-leaf Huckleberry	*Vaccinium ovalifolium*	VAOV	70
Oxalis	*Oxalis oregana*	OXOR	40
Queen's Cup	*Clintonia uniflora*	CLUN	16
Red Heather	*Phyllodoce empetriformis*	PHEM	42
Red Huckleberry	*Vaccinium parvifolium*	VAPA	74
Rhododendron	*Rhododendron macrophyllum*	RHMA	48
Rhododendron, White	*Rhododendron albiflorum*	RHAL	46
Rose, Baldhip	*Rosa gymnocarpa*	ROGY	50
Rosy Twisted-stalk	*Streptopus roseus*	STRO	58
Salal	*Gaultheria shallon*	GASH	26
Salmonberry	*Rubus spectabilis*	RUSP	54
Single-leaved Foamflower	*Tiarella unifoliata*	TIUN	62
Skunkcabbage	*Lysichitum americanum*	LYAM	36
Solomon's Seal, Star-flowered	*Smilacina stellata*	SMST	56
Star-flowered Solomon's Seal	*Smilacina stellata*	SMST	56
Subalpine Lupine	*Lupinus latifolius*	LULA	34
Swordfern	*Polystichum munitum*	POMU	44
Three-leaved Foamflower	*Tiarella trifoliata*	TITR	60
Twinflower	*Linnaea borealis*	LIBO2	32
Twisted-stalk, Rosy	*Streptopus roseus*	STRO	58
Vanillaleaf	*Achlys triphylla*	ACTR	8
Vine Maple	*Acer circinatum*	ACCI	6
Western Fescue	*Festuca occidentalis*	FEOC	22
White Rhododendron	*Rhododendron albiflorum*	RHAL	46

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